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# ANALYTICAL REPORT

## PREPARED FOR

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Generated 10/16/2024 9:54:18 AM

## JOB DESCRIPTION

RED-HILL  
Quarterly - Halawa Wells P1

## JOB NUMBER

380-115740-1

# Eurofins Eaton Analytical Pomona

## Job Notes

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

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

## Compliance Statement

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

## Authorization



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# Definitions/Glossary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Qualifiers

### GC/MS VOA

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

### GC/MS Semi VOA TICs

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

### 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
B	Analyte was found in the associated method blank.
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
^5+	Linear Range Check (LRC) 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.

### General Chemistry

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
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.
☼	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)

# Definitions/Glossary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Glossary (Continued)

**Abbreviation**      **These commonly used abbreviations may or may not be present in this report.**

EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

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

Job ID: 380-115740-1

**Job ID: 380-115740-1**

**Eurofins Eaton Analytical Pomona**

## Job Narrative 380-115740-1

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

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

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

### Receipt

The samples were received on 10/2/2024 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.2°C, 4.0°C and 5.2°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

Method 625.1\_SIM: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 570-487444 and analytical batch 570-487832 recovered outside control limits for the following analyte(s): Benzidine. Benzidine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 625.1\_SIM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 570-487444 and analytical batch 570-487832 recovered outside control limits for the following analytes: Benzidine.

Method 625.1\_SIM: The matrix spike/matrix spike duplicate (MS/MSD) for preparation batch 570-487444 and analytical batch 570-488403 exceeded control limits for the following analyte(s): Benzidine, Note that this analyte is a known poor performer when analyzed using this method.

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

### Gasoline Range Organics

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

### Diesel Range Organics

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

### GC Semi VOA

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

### Hydrocarbons

Method 8015B\_DAI: Surrogate recovery for the following sample was outside the upper control limit: HALAWA WELLS P1 (331-023-WL065) (380-115740-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

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

### Pesticides/PCBs

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

### HPLC/IC

Method 300\_OF\_28D\_PREC: The method blank for analytical batch 380-111533 contained Chloride above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value

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# Case Narrative

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

Job ID: 380-115740-1

## Job ID: 380-115740-1 (Continued)

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found in the method blank.

Method 300\_OF\_48H\_PREC: The following sample was diluted for Nitrite as N to prevent detector saturation due to high conductivity: HALAWA WELLS P1 (331-023-WL065) (380-115740-1). Elevated reporting limits (RLs) are provided.

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

Method 2510B: The method blank for analytical batch 380-111944 contained Specific Conductance more than half the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dieldrin	0.048		0.0096	ug/L	1		525.2	Total/NA
Heptachlor epoxide (isomer B)	0.020		0.0096	ug/L	1		525.2	Total/NA
Chlordane (n.o.s.)	0.25		0.10	ug/L	1		505	Total/NA
Bromide	440		25	ug/L	5		300.0	Total/NA
Chloride	190	B	2.5	mg/L	5		300.0	Total/NA
Nitrate as N	1.7		0.25	mg/L	5		300.0	Total/NA
Sulfate	42		1.3	mg/L	5		300.0	Total/NA
Calcium	38		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	34		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.5	^5+	1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	77		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	2.2		1.0	ug/L	1		200.8	Total Recoverable
Alkalinity	66		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	66		2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	850	^2	2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	520		20	mg/L	1		SM 2540C	Total/NA
Fluoride	0.056		0.050	mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF		SU	1		SM 4500 H+ B	Total/NA

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

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: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

**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			10/05/24 09:44	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			10/07/24 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		10/07/24 17:56	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/07/24 17:56	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		10/07/24 17:56	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			10/05/24 09:44	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			10/05/24 09:44	1
1,1-Dichloroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,1-Dichloropropene	<0.50		0.50	ug/L			10/05/24 09:44	1
1,2,3-Trichlorobenzene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,2,4-Trichlorobenzene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
1,2-Dichloroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,2-Dichloropropane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
1,3-Dichloropropane	<0.50		0.50	ug/L			10/05/24 09:44	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			10/05/24 09:44	1
2,2-Dichloropropane	<0.50		0.50	ug/L			10/05/24 09:44	1
2-Butanone (MEK)	<5.0		5.0	ug/L			10/05/24 09:44	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			10/05/24 09:44	1
Acetone	<500		500	ug/L			10/05/24 09:44	1
Benzene	<0.50		0.50	ug/L			10/05/24 09:44	1
Bromobenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
Bromochloromethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Bromodichloromethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Bromoethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Bromoform	<0.50		0.50	ug/L			10/05/24 09:44	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			10/05/24 09:44	1
Carbon disulfide	<0.50		0.50	ug/L			10/05/24 09:44	1
Carbon tetrachloride	<0.50		0.50	ug/L			10/05/24 09:44	1
Chlorobenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
Chlorodibromomethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Chloroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			10/05/24 09:44	1
Chloromethane (methyl chloride)	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/05/24 09:44	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			10/05/24 09:44	1
Dibromomethane	<0.50		0.50	ug/L			10/05/24 09:44	1

# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

**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			10/05/24 09:44	1
Dichloromethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Diisopropyl ether	<3.0		3.0	ug/L			10/05/24 09:44	1
Ethylbenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
Hexachlorobutadiene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
Isopropylbenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
m,p-Xylenes	<0.50		0.50	ug/L			10/05/24 09:44	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			10/05/24 09:44	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			10/05/24 09:44	1
Naphthalene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
n-Butylbenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
N-Propylbenzene	<0.50		0.50	ug/L			10/05/24 09:44	1
o-Chlorotoluene	<0.50		0.50	ug/L			10/05/24 09:44	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			10/05/24 09:44	1
o-Xylene	<0.50		0.50	ug/L			10/05/24 09:44	1
p-Chlorotoluene	<0.50		0.50	ug/L			10/05/24 09:44	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			10/05/24 09:44	1
p-Isopropyltoluene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
sec-Butylbenzene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
Styrene	<0.50		0.50	ug/L			10/05/24 09:44	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			10/05/24 09:44	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			10/05/24 09:44	1
tert-Butylbenzene	<0.50	^3+	0.50	ug/L			10/05/24 09:44	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			10/05/24 09:44	1
Toluene	<0.50		0.50	ug/L			10/05/24 09:44	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/05/24 09:44	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			10/05/24 09:44	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			10/05/24 09:44	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			10/05/24 09:44	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			10/05/24 09:44	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			10/05/24 09:44	1
Xylenes, Total	<0.50		0.50	ug/L			10/05/24 09:44	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A		10/05/24 09:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		10/05/24 09:44	1
4-Bromofluorobenzene (Surr)	100		70 - 130		10/05/24 09:44	1
Toluene-d8 (Surr)	97		70 - 130		10/05/24 09:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
2,4'-DDE	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
2,4'-DDT	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
4,4'-DDD	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
4,4'-DDE	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Acenaphthene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Acenaphthylene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Acetochlor	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Alachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
alpha-BHC	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
alpha-Chlordane	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Anthracene	<0.019		0.019	ug/L		10/06/24 12:09	10/07/24 18:04	1
Atrazine	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Benz(a)anthracene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Benzo[a]pyrene	<0.019		0.019	ug/L		10/06/24 12:09	10/07/24 18:04	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		10/06/24 12:09	10/07/24 18:04	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		10/06/24 12:09	10/07/24 18:04	1
beta-BHC	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		10/06/24 12:09	10/07/24 18:04	1
Aldrin	<0.0096		0.0096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Bromacil	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Butachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Butylbenzylphthalate	<0.48		0.48	ug/L		10/06/24 12:09	10/07/24 18:04	1
Chlorobenzilate	<0.096	*1	0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Chloroneb	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Chlorpyrifos	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Chrysene	<0.019		0.019	ug/L		10/06/24 12:09	10/07/24 18:04	1
delta-BHC	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Di(2-ethylhexyl)adipate	<0.58	*1	0.58	ug/L		10/06/24 12:09	10/07/24 18:04	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
<b>Dieldrin</b>	<b>0.048</b>		0.0096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Diethylphthalate	<0.48		0.48	ug/L		10/06/24 12:09	10/07/24 18:04	1
Dimethylphthalate	<0.48		0.48	ug/L		10/06/24 12:09	10/07/24 18:04	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		10/06/24 12:09	10/07/24 18:04	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Endosulfan sulfate	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Endrin	<0.0096		0.0096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Endrin aldehyde	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
EPTC	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Fluoranthene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Fluorene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
gamma-BHC (Lindane)	<0.0096		0.0096	ug/L		10/06/24 12:09	10/07/24 18:04	1
gamma-Chlordane	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Heptachlor	<0.0096		0.0096	ug/L		10/06/24 12:09	10/07/24 18:04	1
<b>Heptachlor epoxide (isomer B)</b>	<b>0.020</b>		0.0096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Hexachlorobenzene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1

# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Malathion	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Methoxychlor	<0.048	*1	0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Metolachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Molinate	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Naphthalene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Parathion	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Phenanthrene	<0.039		0.039	ug/L		10/06/24 12:09	10/07/24 18:04	1
Propachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Pyrene	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Simazine	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Terbacil	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Terbutylazine	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Thiobencarb	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		10/06/24 12:09	10/07/24 18:04	1
trans-Nonachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/07/24 18:04	1
Trifluralin	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
1-Methylnaphthalene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1
2-Methylnaphthalene	<0.096		0.096	ug/L		10/06/24 12:09	10/07/24 18:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Hexathiane	3.7	T J N	ug/L		4.93	13798-23-7	10/06/24 12:09	10/07/24 18:04	1
Unknown sulfur compound	9.6	T J	ug/L		6.78	N/A	10/06/24 12:09	10/07/24 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	10/06/24 12:09	10/07/24 18:04	1
Perylene-d12	98		70 - 130	10/06/24 12:09	10/07/24 18:04	1
Triphenylphosphate	109		70 - 130	10/06/24 12:09	10/07/24 18:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
2,4,5-Trichlorophenol	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
2,4,6-Trichlorophenol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
2,4-Dichlorophenol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
2,4-Dinitrophenol	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
2,6-Dichlorophenol	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
2-Chloronaphthalene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
2-Chlorophenol	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
2-Methylnaphthalene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
2-Methylphenol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
2-Nitroaniline	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
2-Nitrophenol	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
3/4-Methylphenol	<1.9		1.9	ug/L		10/04/24 05:24	10/06/24 16:17	1
3-Nitroaniline	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
4,6-Dinitro-2-methylphenol	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
4-Bromophenyl phenyl ether	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
4-Chloro-3-methylphenol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
4-Chloroaniline	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1

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# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
4-Nitroaniline	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
4-Nitrophenol	<4.8		4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
Acenaphthene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Acenaphthylene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Aniline	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Anthracene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzidine	<4.8	*1 *-	4.8	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzo[a]anthracene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzo[a]pyrene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzo[b]fluoranthene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzo[g,h,i]perylene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzo[k]fluoranthene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzoic acid	<9.7		9.7	ug/L		10/04/24 05:24	10/06/24 16:17	1
Benzyl alcohol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
Bis(2-chloroethoxy)methane	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Bis(2-chloroethyl)ether	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
bis (2-Chloroisopropyl) ether	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Chrysene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Dibenz(a,h)anthracene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Dibenzofuran	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Fluoranthene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Fluorene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Hexachloroethane	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Indeno[1,2,3-cd]pyrene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Naphthalene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Nitrobenzene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
N-Nitrosodi-n-propylamine	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
N-Nitrosodiphenylamine	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Pentachlorophenol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
Phenanthrene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1
Phenol	<0.97		0.97	ug/L		10/04/24 05:24	10/06/24 16:17	1
Pyrene	<0.19		0.19	ug/L		10/04/24 05:24	10/06/24 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	66		28 - 127	10/04/24 05:24	10/06/24 16:17	1
2-Fluorobiphenyl (Surr)	42		31 - 120	10/04/24 05:24	10/06/24 16:17	1
2-Fluorophenol (Surr)	41		17 - 120	10/04/24 05:24	10/06/24 16:17	1
Nitrobenzene-d5 (Surr)	43		27 - 120	10/04/24 05:24	10/06/24 16:17	1
Phenol-d6 (Surr)	26		10 - 120	10/04/24 05:24	10/06/24 16:17	1
p-Terphenyl-d14 (Surr)	47		45 - 120	10/04/24 05:24	10/06/24 16:17	1

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	10/04/24 05:24	10/15/24 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	75		33 - 139	10/04/24 05:24	10/15/24 18:13	1
2-Fluorobiphenyl (Surr)	62		33 - 126	10/04/24 05:24	10/15/24 18:13	1
2-Fluorophenol (Surr)	47		12 - 120	10/04/24 05:24	10/15/24 18:13	1

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# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	65		36 - 120	10/04/24 05:24	10/15/24 18:13	1
Phenol-d6 (Surr)	26		10 - 120	10/04/24 05:24	10/15/24 18:13	1
p-Terphenyl-d14 (Surr)	74		47 - 131	10/04/24 05:24	10/15/24 18:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			10/11/24 02:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		38 - 134		10/11/24 02:07	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		10/03/24 13:30	10/04/24 02:49	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		10/03/24 13:30	10/04/24 02:49	1
1,2-Dibromoethane	<0.010		0.010	ug/L		10/03/24 13:30	10/04/24 02:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	105		60 - 140	10/03/24 13:30	10/04/24 02:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	<0.50		0.50	ug/L		10/04/24 15:37	10/04/24 21:45	1
Chlordane (n.o.s.)	0.25		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1016	<0.070		0.070	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1221	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1232	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1242	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1248	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1254	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1
PCB-1260	<0.070		0.070	ug/L		10/04/24 15:37	10/04/24 21:45	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	93		70 - 130	10/04/24 15:37	10/04/24 21:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		10/04/24 13:52	10/06/24 10:04	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		10/04/24 13:52	10/06/24 10:04	1
C8-C18	<25		25	ug/L		10/04/24 13:52	10/06/24 10:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	120		60 - 130	10/04/24 13:52	10/06/24 10:04	1

**Method: SW846 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	<0.10		0.10	mg/L			10/04/24 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Hexafluoro-2-propanol (Surr)	103		54 - 120		10/04/24 17:36	1

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# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

Date Collected: 10/01/24 09:55

Matrix: Drinking Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	440		25	ug/L			10/08/24 08:10	5
Chloride	190	B	2.5	mg/L			10/03/24 05:30	5
Nitrate as N	1.7		0.25	mg/L			10/03/24 05:30	5
Nitrite as N	<0.25		0.25	mg/L			10/03/24 05:30	5
Sulfate	42		1.3	mg/L			10/03/24 05:30	5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	38		1.0	mg/L			10/03/24 17:01	1
Magnesium	34		0.10	mg/L			10/03/24 17:01	1
Potassium	4.5	^5+	1.0	mg/L			10/03/24 17:01	1
Sodium	77		1.0	mg/L			10/03/24 17:01	1

### Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L		10/09/24 11:37	10/09/24 20:21	1
Arsenic	<1.0		1.0	ug/L		10/09/24 11:37	10/09/24 20:21	1
Beryllium	<1.0		1.0	ug/L		10/09/24 11:37	10/10/24 12:45	1
Cadmium	<0.50		0.50	ug/L		10/09/24 11:37	10/09/24 20:21	1
Chromium	2.2		1.0	ug/L		10/09/24 11:37	10/10/24 12:45	1
Copper	<2.0		2.0	ug/L		10/09/24 11:37	10/09/24 20:21	1
Lead	<0.50		0.50	ug/L		10/09/24 11:37	10/09/24 20:21	1
Nickel	<5.0		5.0	ug/L		10/09/24 11:37	10/09/24 20:21	1
Selenium	<5.0		5.0	ug/L		10/09/24 11:37	10/09/24 20:21	1
Silver	<0.50	F1	0.50	ug/L		10/09/24 11:37	10/09/24 20:21	1
Thallium	<1.0		1.0	ug/L		10/09/24 11:37	10/09/24 20:21	1
Zinc	<20		20	ug/L		10/09/24 11:37	10/09/24 20:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		10/14/24 13:26	10/14/24 18:40	1

### General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	66		2.0	mg/L			10/04/24 20:57	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	66		2.0	mg/L			10/04/24 20:57	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.0		2.0	mg/L			10/04/24 20:57	1
Specific Conductance (SM 2510B)	850	^2	2.0	umhos/cm			10/04/24 20:57	1
Total Dissolved Solids (SM 2540C)	520		20	mg/L			10/03/24 15:59	1
Fluoride (SM 4500 F C)	0.056		0.050	mg/L			10/04/24 22:50	1
pH (SM 4500 H+ B)	7.7	HF		SU			10/04/24 20:57	1
Sulfide (SM 4500 S2 D)	<0.050		0.050	mg/L			10/04/24 15:49	1

# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

Date Collected: 10/01/24 09:55

Matrix: Water

Date Received: 10/02/24 10:20

**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			10/06/24 17:21	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			10/06/24 17:21	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			10/06/24 17:21	1
1,1-Dichloroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,1-Dichloropropene	<0.50		0.50	ug/L			10/06/24 17:21	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
1,2-Dichloroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,2-Dichloropropane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
1,3-Dichloropropane	<0.50		0.50	ug/L			10/06/24 17:21	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			10/06/24 17:21	1
2,2-Dichloropropane	<0.50		0.50	ug/L			10/06/24 17:21	1
2-Butanone (MEK)	<5.0		5.0	ug/L			10/06/24 17:21	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			10/06/24 17:21	1
Acetone	<500		500	ug/L			10/07/24 17:47	1
Benzene	<0.50		0.50	ug/L			10/06/24 17:21	1
Bromobenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
Bromochloromethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Bromodichloromethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Bromoethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Bromoform	<0.50		0.50	ug/L			10/06/24 17:21	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			10/06/24 17:21	1
Carbon disulfide	<0.50		0.50	ug/L			10/06/24 17:21	1
Carbon tetrachloride	<0.50		0.50	ug/L			10/06/24 17:21	1
Chlorobenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
Chlorodibromomethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Chloroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			10/06/24 17:21	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			10/06/24 17:21	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/06/24 17:21	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			10/06/24 17:21	1
Dibromomethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Dichloromethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Diisopropyl ether	<3.0		3.0	ug/L			10/06/24 17:21	1
Ethylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
Hexachlorobutadiene	<0.50		0.50	ug/L			10/06/24 17:21	1
Isopropylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
m,p-Xylenes	<0.50		0.50	ug/L			10/06/24 17:21	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			10/06/24 17:21	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			10/06/24 17:21	1

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# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

Date Collected: 10/01/24 09:55

Matrix: Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	<0.50		0.50	ug/L			10/06/24 17:21	1
n-Butylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
N-Propylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
o-Chlorotoluene	<0.50		0.50	ug/L			10/06/24 17:21	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			10/06/24 17:21	1
o-Xylene	<0.50		0.50	ug/L			10/06/24 17:21	1
p-Chlorotoluene	<0.50		0.50	ug/L			10/06/24 17:21	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			10/06/24 17:21	1
p-Isopropyltoluene	<0.50		0.50	ug/L			10/06/24 17:21	1
sec-Butylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
Styrene	<0.50		0.50	ug/L			10/06/24 17:21	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			10/06/24 17:21	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			10/06/24 17:21	1
tert-Butylbenzene	<0.50		0.50	ug/L			10/06/24 17:21	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			10/06/24 17:21	1
Toluene	<0.50		0.50	ug/L			10/06/24 17:21	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/06/24 17:21	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			10/06/24 17:21	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			10/06/24 17:21	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			10/06/24 17:21	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			10/06/24 17:21	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			10/06/24 17:21	1
Xylenes, Total	<0.50		0.50	ug/L			10/06/24 17:21	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Acetaldehyde	9.8	T J N	ug/L		1.37	75-07-0		10/06/24 17:21	1
Unknown	53	T J	ug/L		9.18	N/A		10/07/24 17:47	1
Furfural	45	T J N	ug/L		9.69	98-01-1		10/06/24 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		10/06/24 17:21	1
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		10/07/24 17:47	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/06/24 17:21	1
4-Bromofluorobenzene (Surr)	105		70 - 130		10/07/24 17:47	1
Toluene-d8 (Surr)	95		70 - 130		10/06/24 17:21	1
Toluene-d8 (Surr)	98		70 - 130		10/07/24 17:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			10/10/24 23:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		38 - 134		10/10/24 23:01	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		10/03/24 13:30	10/04/24 03:32	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		10/03/24 13:30	10/04/24 03:32	1
1,2-Dibromoethane	<0.010		0.010	ug/L		10/03/24 13:30	10/04/24 03:32	1

# Client Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

**Date Collected: 10/01/24 09:55**

**Matrix: Water**

**Date Received: 10/02/24 10:20**

<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)	106		60 - 140	10/03/24 13:30	10/04/24 03:32	1

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# Action Limit Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-115740-1

## 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	^3+	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		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	*1	ug/L		400		525.2	Total/NA
Endrin	<0.0096		ug/L		2		525.2	Total/NA
gamma-BHC (Lindane)	<0.0096		ug/L		0.2		525.2	Total/NA
Heptachlor	<0.0096		ug/L		0.4		525.2	Total/NA
Heptachlor epoxide (isomer B)	0.020		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	<0.048	*1	ug/L		40		525.2	Total/NA
Simazine	<0.048		ug/L		4		525.2	Total/NA
Benzo[a]pyrene	<0.19		ug/L		0.2		625.1 SIM	Total/NA
Pentachlorophenol	<0.97		ug/L		1		625.1 SIM	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
Chlordane (n.o.s.)	0.25		ug/L		2		505	Total/NA
Polychlorinated biphenyls, Total	<0.10		ug/L		0.5		505	Total/NA
Chloride	190	B	mg/L			250	300.0	Total/NA
Nitrate as N	1.7		mg/L		10		300.0	Total/NA
Nitrite as N	<0.25		mg/L		1		300.0	Total/NA
Sulfate	42		mg/L			250	300.0	Total/NA

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# Action Limit Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**  
**(Continued)**

**Lab Sample ID: 380-115740-1**

## 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
Mercury	<0.10		ug/L		2		245.1	Total/NA
<b>Total Dissolved Solids</b>	<b>520</b>		mg/L			<b>500</b>	SM 2540C	Total/NA
Fluoride	0.056		mg/L		4	2	SM 4500 F C	Total/NA
pH	7.7	HF	SU			6.5	SM 4500 H+ B	Total/NA

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

## 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
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70	0.50	524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5	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
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
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
Xylenes, Total	<0.50		ug/L	10000	10000	0.50	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: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

Matrix: Drinking 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)
380-115740-1	HALAWA WELLS P1 (331-023-V)	100	102	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 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)
LCS 380-112090/2	Lab Control Sample	101	102	101
LCSD 380-112090/3	Lab Control Sample Dup	101	108	102
MB 380-112090/5	Method Blank	101	104	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 380-112090/4	Lab Control Sample	100	104	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: Drinking 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)
380-115740-1	HALAWA WELLS P1 (331-023-V)	103	100	97

**Surrogate Legend**

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

# Surrogate Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	DCA (70-130)	BFB (70-130)	TOL (70-130)
380-115740-2	TRAVEL BLANK	103	102	95
380-115740-2	TRAVEL BLANK	95	105	98
LCS 380-111815/11	Lab Control Sample	99	98	100
LCS 380-111817/3	Lab Control Sample	100	100	98
LCS 380-111986/5	Lab Control Sample	100	100	98
LCS 380-112073/5	Lab Control Sample	99	105	101
LCSD 380-111815/12	Lab Control Sample Dup	100	99	97
LCSD 380-111817/4	Lab Control Sample Dup	101	102	96
LCSD 380-111986/6	Lab Control Sample Dup	113	100	112
LCSD 380-112073/6	Lab Control Sample Dup	95	107	100
MB 380-111815/15	Method Blank	97	100	97
MB 380-111817/5	Method Blank	101	107	98
MB 380-111986/8	Method Blank	98	99	94
MB 380-112073/8	Method Blank	94	100	90
MRL 380-111815/13	Lab Control Sample	100	99	96
MRL 380-111815/14	Lab Control Sample	100	102	99
MRL 380-111986/3	Lab Control Sample	101	99	95
MRL 380-111986/4	Lab Control Sample	113	97	108
MRL 380-112073/3	Lab Control Sample	98	105	101
MRL 380-112073/4	Lab Control Sample	99	110	100

**Surrogate Legend**

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

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-115740-1	HALAWA WELLS P1 (331-023-V)	97	98	109

**Surrogate Legend**

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

## 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	2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-115709-B-1-A MSD	Matrix Spike Duplicate	96	89	103
380-115709-C-1-A MS	Matrix Spike	97	91	105
LCS 380-111994/23-A	Lab Control Sample	97	84	103
LCSD 380-111994/24-A	Lab Control Sample Dup	97	75	103
MB 380-111994/21-A	Method Blank	96	88	105
MRL 380-111994/22-A	Lab Control Sample	96	73	99

# Surrogate Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (33-139)	FBP (33-126)	2FP (12-120)	NBZ (36-120)	PHL6 (10-120)	TPHd14 (47-131)
380-115740-1	HALAWA WELLS P1 (331-023-V)	75	62	47	65	26	74

## Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (33-139)	FBP (33-126)	2FP (12-120)	NBZ (36-120)	PHL6 (10-120)	TPHd14 (47-131)
MB 570-487444/1-A	Method Blank	79	75	60	83	32	84

## Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)
380-115740-1	HALAWA WELLS P1 (331-023-V)	66	42	41	43	26	47

## Surrogate Legend

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

# Surrogate Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (28-127)	FBP (31-120)	2FP (17-120)	NBZ (27-120)	PHL6 (10-120)	TPHd14 (45-120)
380-115753-A-3-A MS	Matrix Spike	63	37	42	29	27	48
380-115753-A-3-B MSD	Matrix Spike Duplicate	68	39	45	31	30	49
LCS 570-487444/2-A	Lab Control Sample	86	45	51	34	39	59
LCS 570-487444/3-A	Lab Control Sample Dup	85	44	50	33	37	57
MB 570-487444/1-A	Method Blank	84	48	48	52	32	52

### Surrogate Legend

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

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB1 (38-134)
380-115740-1	HALAWA WELLS P1 (331-023-V)	79

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB1 (38-134)
380-115740-2	TRAVEL BLANK	85
380-115753-B-3 MS	Matrix Spike	92
380-115753-B-3 MSD	Matrix Spike Duplicate	93
LCS 570-489970/1010	Lab Control Sample	95
LCS 570-489970/12	Lab Control Sample Dup	96
MB 570-489970/11	Method Blank	89
MRL 570-489970/1005	Lab Control Sample	79

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DBPP1 (60-140)
380-115740-1	HALAWA WELLS P1 (331-023-V)	105

### Surrogate Legend

DBPP = 1,2-Dibromopropane (Surr)



# Surrogate Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

## 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)
380-115740-2	TRAVEL BLANK	106
380-115838-CA-1-A MS	Matrix Spike	97
380-115841-BX-1-A DU	Duplicate	100
LCS 380-111631/38-A	Lab Control Sample	107
MBL 380-111631/13-A	Method Blank	99
MRL 380-111631/11-A	Lab Control Sample	92
MRL 380-111631/12-A	Lab Control Sample	100

#### Surrogate Legend

DBPP = 1,2-Dibromopropane (Surr)

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (70-130)
380-115740-1	HALAWA WELLS P1 (331-023-V)	93

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

## 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)
380-115838-BX-1-B MS	Matrix Spike	91
380-115838-BY-1-B MS	Matrix Spike	93
380-115841-BY-1-B MS	Matrix Spike	90
380-115841-BZ-1-B MS	Matrix Spike	101
LCS 380-111931/28-A	Lab Control Sample	98
LCS 380-111931/30-A	Lab Control Sample	98
LCSD 380-111931/29-A	Lab Control Sample Dup	93
MB 380-111931/3-A	Method Blank	95
MRL 380-111931/1-A	Lab Control Sample	98
MRL 380-111931/2-A	Lab Control Sample	100

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

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

Matrix: Drinking Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
380-115740-1	HALAWA WELLS P1 (331-023-V)	120

#### Surrogate Legend

OTCSN = n-Octacosane (Surr)

# Surrogate Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

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

**Matrix: Water**

**Prep Type: Total/NA**

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
380-115753-C-3-A MS	Matrix Spike	111
380-115753-C-3-B MSD	Matrix Spike Duplicate	112
LCS 570-488004/2-A	Lab Control Sample	108
LCSD 570-488004/3-A	Lab Control Sample Dup	116
MB 570-488004/1-A	Method Blank	118
MRL 570-488004/4-A	Lab Control Sample	112

**Surrogate Legend**

OTCSN = n-Octacosane (Surr)

## Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

**Matrix: Drinking Water**

**Prep Type: Total/NA**

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HF2PP1 (54-120)
380-115740-1	HALAWA WELLS P1 (331-023-V)	103

**Surrogate Legend**

HF2PP = Hexafluoro-2-propanol (Surr)

## Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

**Matrix: Water**

**Prep Type: Total/NA**

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HF2PP1 (54-120)
380-115709-AD-1 MS	Matrix Spike	96
380-115709-AD-1 MSD	Matrix Spike Duplicate	91
LCS 570-487891/11	Lab Control Sample	104
LCSD 570-487891/12	Lab Control Sample Dup	107
MB 570-487891/10	Method Blank	114
MRL 570-487891/13	Lab Control Sample	100

**Surrogate Legend**

HF2PP = Hexafluoro-2-propanol (Surr)

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111815/15**  
**Matrix: Water**  
**Analysis Batch: 111815**

**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			10/04/24 22:07	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			10/04/24 22:07	1
1,1-Dichloroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,1-Dichloropropene	<0.50		0.50	ug/L			10/04/24 22:07	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
1,2-Dichloroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,2-Dichloropropane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
1,3-Dichloropropane	<0.50		0.50	ug/L			10/04/24 22:07	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			10/04/24 22:07	1
2,2-Dichloropropane	<0.50		0.50	ug/L			10/04/24 22:07	1
2-Butanone (MEK)	<5.0		5.0	ug/L			10/04/24 22:07	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			10/04/24 22:07	1
Acetone	<500		500	ug/L			10/04/24 22:07	1
Benzene	<0.50		0.50	ug/L			10/04/24 22:07	1
Bromobenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
Bromochloromethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Bromodichloromethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Bromoethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Bromoform	<0.50		0.50	ug/L			10/04/24 22:07	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			10/04/24 22:07	1
Carbon disulfide	<0.50		0.50	ug/L			10/04/24 22:07	1
Carbon tetrachloride	<0.50		0.50	ug/L			10/04/24 22:07	1
Chlorobenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
Chlorodibromomethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Chloroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			10/04/24 22:07	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			10/04/24 22:07	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/04/24 22:07	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			10/04/24 22:07	1
Dibromomethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Dichloromethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Diisopropyl ether	<3.0		3.0	ug/L			10/04/24 22:07	1
Ethylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
Hexachlorobutadiene	<0.50		0.50	ug/L			10/04/24 22:07	1
Isopropylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
m,p-Xylenes	<0.50		0.50	ug/L			10/04/24 22:07	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			10/04/24 22:07	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			10/04/24 22:07	1
Naphthalene	<0.50		0.50	ug/L			10/04/24 22:07	1
n-Butylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111815/15**  
**Matrix: Water**  
**Analysis Batch: 111815**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
o-Chlorotoluene	<0.50		0.50	ug/L			10/04/24 22:07	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			10/04/24 22:07	1
o-Xylene	<0.50		0.50	ug/L			10/04/24 22:07	1
p-Chlorotoluene	<0.50		0.50	ug/L			10/04/24 22:07	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			10/04/24 22:07	1
p-Isopropyltoluene	<0.50		0.50	ug/L			10/04/24 22:07	1
sec-Butylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
Styrene	<0.50		0.50	ug/L			10/04/24 22:07	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			10/04/24 22:07	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			10/04/24 22:07	1
tert-Butylbenzene	<0.50		0.50	ug/L			10/04/24 22:07	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			10/04/24 22:07	1
Toluene	<0.50		0.50	ug/L			10/04/24 22:07	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/04/24 22:07	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			10/04/24 22:07	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			10/04/24 22:07	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			10/04/24 22:07	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			10/04/24 22:07	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			10/04/24 22:07	1
Xylenes, Total	<0.50		0.50	ug/L			10/04/24 22:07	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Propane, 2-ethoxy-	0.595	T J N	ug/L		2.61	625-54-7		10/04/24 22:07	1
Unknown	0.530	T J	ug/L		6.27	N/A		10/04/24 22:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130		10/04/24 22:07	1
4-Bromofluorobenzene (Surr)	100		70 - 130		10/04/24 22:07	1
Toluene-d8 (Surr)	97		70 - 130		10/04/24 22:07	1

**Lab Sample ID: LCS 380-111815/11**  
**Matrix: Water**  
**Analysis Batch: 111815**

**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	4.88		ug/L		98	70 - 130
1,1,1-Trichloroethane	5.00	4.43		ug/L		89	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.67		ug/L		93	70 - 130
1,1,2-Trichloroethane	5.00	4.54		ug/L		91	70 - 130
1,1-Dichloroethylene	5.00	4.48		ug/L		90	70 - 130
1,1-Dichloroethane	5.00	4.53		ug/L		91	70 - 130
1,1-Dichloropropene	5.00	4.25		ug/L		85	70 - 130
1,2,3-Trichlorobenzene	5.00	6.00		ug/L		120	70 - 130
1,2,3-Trichloropropane	5.00	4.79		ug/L		96	70 - 130
1,2,4-Trichlorobenzene	5.00	5.99		ug/L		120	70 - 130
1,2,4-Trimethylbenzene	5.00	5.31		ug/L		106	70 - 130
1,2-Dichloroethane	5.00	4.37		ug/L		87	70 - 130

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111815/11**  
**Matrix: Water**  
**Analysis Batch: 111815**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloropropane	5.00	4.10		ug/L		82	70 - 130
1,3,5-Trimethylbenzene	5.00	5.20		ug/L		104	70 - 130
1,3-Dichloropropane	5.00	4.39		ug/L		88	70 - 130
1,3-Dichloropropene, Total	10.0	9.71		ug/L		97	70 - 130
2,2-Dichloropropane	5.00	4.31		ug/L		86	70 - 130
2-Butanone (MEK)	50.0	43.6		ug/L		87	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	44.6		ug/L		89	70 - 130
Acetone	50.0	46.6	J	ug/L		93	70 - 130
Benzene	5.00	4.50		ug/L		90	70 - 130
Bromobenzene	5.00	4.57		ug/L		91	70 - 130
Bromochloromethane	5.00	4.30		ug/L		86	70 - 130
Bromodichloromethane	5.00	4.76		ug/L		95	70 - 130
Bromoethane	5.00	4.34		ug/L		87	70 - 130
Bromoform	5.00	5.38		ug/L		108	70 - 130
Bromomethane (Methyl Bromide)	5.00	4.63		ug/L		93	70 - 130
Carbon disulfide	5.00	4.32		ug/L		86	70 - 130
Carbon tetrachloride	5.00	4.40		ug/L		88	70 - 130
Chlorobenzene	5.00	4.58		ug/L		92	70 - 130
Chlorodibromomethane	5.00	4.99		ug/L		100	70 - 130
cis-1,3-Dichloropropene	5.00	4.70		ug/L		94	70 - 130
Dichloromethane	5.00	4.18		ug/L		84	70 - 130
Diisopropyl ether	5.00	4.49		ug/L		90	70 - 130
Ethylbenzene	5.00	4.60		ug/L		92	70 - 130
Hexachlorobutadiene	5.00	7.93	*+	ug/L		159	70 - 130
Isopropylbenzene	5.00	4.81		ug/L		96	70 - 130
m,p-Xylenes	10.0	9.32		ug/L		93	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.89		ug/L		98	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.44		ug/L		89	70 - 130
Naphthalene	5.00	5.79		ug/L		116	70 - 130
n-Butylbenzene	5.00	5.65		ug/L		113	70 - 130
N-Propylbenzene	5.00	4.94		ug/L		99	70 - 130
o-Chlorotoluene	5.00	5.05		ug/L		101	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.99		ug/L		100	70 - 130
o-Xylene	5.00	4.76		ug/L		95	70 - 130
p-Chlorotoluene	5.00	4.76		ug/L		95	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.82		ug/L		96	70 - 130
p-Isopropyltoluene	5.00	5.55		ug/L		111	70 - 130
sec-Butylbenzene	5.00	5.39		ug/L		108	70 - 130
Styrene	5.00	4.77		ug/L		95	70 - 130
Tert-amyl methyl ether	5.00	4.56		ug/L		91	70 - 130
Tert-butyl ethyl ether	5.00	4.49		ug/L		90	70 - 130
tert-Butylbenzene	5.00	5.23		ug/L		105	70 - 130
Tetrachloroethene (PCE)	5.00	4.53		ug/L		91	70 - 130
Toluene	5.00	4.55		ug/L		91	70 - 130
trans-1,2-Dichloroethylene	5.00	4.37		ug/L		87	70 - 130
trans-1,3-Dichloropropene	5.00	5.01		ug/L		100	70 - 130
Trichloroethylene (TCE)	5.00	4.55		ug/L		91	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.47		ug/L		109	70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111815/11**  
**Matrix: Water**  
**Analysis Batch: 111815**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichlorotrifluoroethane	5.00	4.38		ug/L		88	70 - 130
Vinyl Chloride (VC)	5.00	4.63		ug/L		93	70 - 130
Xylenes, Total	15.0	14.1		ug/L		94	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 380-111815/12**  
**Matrix: Water**  
**Analysis Batch: 111815**

**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	4.77		ug/L		95	70 - 130	2	20
1,1,1-Trichloroethane	5.00	4.36		ug/L		87	70 - 130	2	20
1,1,2,2-Tetrachloroethane	5.00	4.67		ug/L		93	70 - 130	0	20
1,1,2-Trichloroethane	5.00	4.40		ug/L		88	70 - 130	3	20
1,1-Dichlorethylene	5.00	4.52		ug/L		90	70 - 130	1	20
1,1-Dichloroethane	5.00	4.55		ug/L		91	70 - 130	0	20
1,1-Dichloropropene	5.00	4.19		ug/L		84	70 - 130	1	20
1,2,3-Trichlorobenzene	5.00	5.46		ug/L		109	70 - 130	9	20
1,2,3-Trichloropropane	5.00	4.86		ug/L		97	70 - 130	1	20
1,2,4-Trichlorobenzene	5.00	5.64		ug/L		113	70 - 130	6	20
1,2,4-Trimethylbenzene	5.00	4.98		ug/L		100	70 - 130	7	20
1,2-Dichloroethane	5.00	4.61		ug/L		92	70 - 130	5	20
1,2-Dichloropropane	5.00	3.97		ug/L		79	70 - 130	3	20
1,3,5-Trimethylbenzene	5.00	4.91		ug/L		98	70 - 130	6	20
1,3-Dichloropropane	5.00	4.32		ug/L		86	70 - 130	1	20
1,3-Dichloropropene, Total	10.0	8.92		ug/L		89	70 - 130	8	20
2,2-Dichloropropane	5.00	4.46		ug/L		89	70 - 130	3	20
2-Butanone (MEK)	50.0	41.9		ug/L		84	70 - 130	4	20
4-Methyl-2-pentanone (MIBK)	50.0	43.2		ug/L		86	70 - 130	3	20
Acetone	50.0	39.3	J	ug/L		79	70 - 130	17	20
Benzene	5.00	4.34		ug/L		87	70 - 130	3	20
Bromobenzene	5.00	4.62		ug/L		92	70 - 130	1	20
Bromochloromethane	5.00	4.50		ug/L		90	70 - 130	5	20
Bromodichloromethane	5.00	4.55		ug/L		91	70 - 130	5	20
Bromoethane	5.00	4.41		ug/L		88	70 - 130	2	20
Bromoform	5.00	4.90		ug/L		98	70 - 130	9	20
Bromomethane (Methyl Bromide)	5.00	4.66		ug/L		93	70 - 130	1	20
Carbon disulfide	5.00	4.38		ug/L		88	70 - 130	1	20
Carbon tetrachloride	5.00	4.26		ug/L		85	70 - 130	3	20
Chlorobenzene	5.00	4.43		ug/L		89	70 - 130	3	20
Chlorodibromomethane	5.00	4.66		ug/L		93	70 - 130	7	20
cis-1,3-Dichloropropene	5.00	4.33		ug/L		87	70 - 130	8	20
Dichloromethane	5.00	4.23		ug/L		85	70 - 130	1	20
Diisopropyl ether	5.00	4.42		ug/L		88	70 - 130	1	20

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111815/12**  
**Matrix: Water**  
**Analysis Batch: 111815**

**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
Ethylbenzene	5.00	4.47		ug/L		89	70 - 130	3	20
Hexachlorobutadiene	5.00	6.56	*+	ug/L		131	70 - 130	19	20
Isopropylbenzene	5.00	4.58		ug/L		92	70 - 130	5	20
m,p-Xylenes	10.0	8.96		ug/L		90	70 - 130	4	20
m-Dichlorobenzene (1,3-DCB)	5.00	4.82		ug/L		96	70 - 130	1	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.50		ug/L		90	70 - 130	1	20
Naphthalene	5.00	5.45		ug/L		109	70 - 130	6	20
n-Butylbenzene	5.00	5.43		ug/L		109	70 - 130	4	20
N-Propylbenzene	5.00	4.78		ug/L		96	70 - 130	3	20
o-Chlorotoluene	5.00	4.79		ug/L		96	70 - 130	5	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.97		ug/L		99	70 - 130	0	20
o-Xylene	5.00	4.63		ug/L		93	70 - 130	3	20
p-Chlorotoluene	5.00	4.70		ug/L		94	70 - 130	1	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.88		ug/L		98	70 - 130	1	20
p-Isopropyltoluene	5.00	5.18		ug/L		104	70 - 130	7	20
sec-Butylbenzene	5.00	4.96		ug/L		99	70 - 130	8	20
Styrene	5.00	4.70		ug/L		94	70 - 130	2	20
Tert-amyl methyl ether	5.00	4.55		ug/L		91	70 - 130	0	20
Tert-butyl ethyl ether	5.00	4.51		ug/L		90	70 - 130	0	20
tert-Butylbenzene	5.00	4.79		ug/L		96	70 - 130	9	20
Tetrachloroethene (PCE)	5.00	4.32		ug/L		86	70 - 130	5	20
Toluene	5.00	4.41		ug/L		88	70 - 130	3	20
trans-1,2-Dichloroethylene	5.00	4.45		ug/L		89	70 - 130	2	20
trans-1,3-Dichloropropene	5.00	4.59		ug/L		92	70 - 130	9	20
Trichloroethylene (TCE)	5.00	4.54		ug/L		91	70 - 130	0	20
Trichlorofluoromethane (Freon 11)	5.00	5.57		ug/L		111	70 - 130	2	20
Trichlorotrifluoroethane	5.00	4.46		ug/L		89	70 - 130	2	20
Vinyl Chloride (VC)	5.00	4.84		ug/L		97	70 - 130	4	20
Xylenes, Total	15.0	13.6		ug/L		91	70 - 130	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	97		70 - 130

**Lab Sample ID: MRL 380-111815/13**  
**Matrix: Water**  
**Analysis Batch: 111815**

**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	0.553		ug/L		111	50 - 150
Vinyl Chloride (VC)	0.250	0.246	J	ug/L		98	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	96		70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111815/14**  
**Matrix: Water**  
**Analysis Batch: 111815**

**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	0.581		ug/L		116	50 - 150
1,1,1-Trichloroethane	0.500	0.614		ug/L		123	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.660		ug/L		132	50 - 150
1,1,2-Trichloroethane	0.500	0.615		ug/L		123	50 - 150
1,1-Dichloroethylene	0.500	0.682		ug/L		136	50 - 150
1,1-Dichloroethane	0.500	0.641		ug/L		128	50 - 150
1,1-Dichloropropene	0.500	0.626		ug/L		125	50 - 150
1,2,3-Trichlorobenzene	0.500	0.814	^3+	ug/L		163	50 - 150
1,2,3-Trichloropropane	0.500	0.664		ug/L		133	50 - 150
1,2,4-Trichlorobenzene	0.500	0.770	^3+	ug/L		154	50 - 150
1,2,4-Trimethylbenzene	0.500	0.733		ug/L		147	50 - 150
1,2-Dichloroethane	0.500	0.622		ug/L		124	50 - 150
1,2-Dichloropropane	0.500	0.624		ug/L		125	50 - 150
1,3,5-Trimethylbenzene	0.500	0.720		ug/L		144	50 - 150
1,3-Dichloropropane	0.500	0.592		ug/L		118	50 - 150
1,3-Dichloropropene, Total	1.00	1.02		ug/L		102	50 - 150
2,2-Dichloropropane	0.500	0.694		ug/L		139	50 - 150
2-Butanone (MEK)	5.00	5.85		ug/L		117	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	6.52		ug/L		130	50 - 150
Acetone	5.00	4.32	J	ug/L		86	50 - 150
Benzene	0.500	0.655		ug/L		131	50 - 150
Bromobenzene	0.500	0.597		ug/L		119	50 - 150
Bromochloromethane	0.500	0.609		ug/L		122	50 - 150
Bromodichloromethane	0.500	0.585		ug/L		117	50 - 150
Bromoethane	0.500	0.654		ug/L		131	50 - 150
Bromoform	0.500	0.582		ug/L		116	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.603		ug/L		121	50 - 150
Carbon disulfide	0.500	0.592		ug/L		118	50 - 150
Carbon tetrachloride	0.500	0.616		ug/L		123	50 - 150
Chlorobenzene	0.500	0.627		ug/L		125	50 - 150
Chlorodibromomethane	0.500	0.558		ug/L		112	50 - 150
cis-1,3-Dichloropropene	0.500	0.520		ug/L		104	50 - 150
Dichloromethane	0.500	0.660		ug/L		132	50 - 150
Diisopropyl ether	0.500	0.626	J	ug/L		125	50 - 150
Ethylbenzene	0.500	0.631		ug/L		126	50 - 150
Hexachlorobutadiene	0.500	1.02	^3+	ug/L		204	50 - 150
Isopropylbenzene	0.500	0.671		ug/L		134	50 - 150
m,p-Xylenes	1.00	1.22		ug/L		122	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.692		ug/L		138	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.632		ug/L		126	50 - 150
Naphthalene	0.500	0.755	^3+	ug/L		151	50 - 150
n-Butylbenzene	0.500	0.674		ug/L		135	50 - 150
N-Propylbenzene	0.500	0.630		ug/L		126	50 - 150
o-Chlorotoluene	0.500	0.671		ug/L		134	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.632		ug/L		126	50 - 150
o-Xylene	0.500	0.637		ug/L		127	50 - 150
p-Chlorotoluene	0.500	0.629		ug/L		126	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.681		ug/L		136	50 - 150



# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111815/14**  
**Matrix: Water**  
**Analysis Batch: 111815**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
p-Isopropyltoluene	0.500	0.779	^3+	ug/L		156	50 - 150
sec-Butylbenzene	0.500	0.760	^3+	ug/L		152	50 - 150
Styrene	0.500	0.587		ug/L		117	50 - 150
Tert-amyl methyl ether	0.500	0.652	J	ug/L		130	50 - 150
Tert-butyl ethyl ether	0.500	0.652	J	ug/L		130	50 - 150
tert-Butylbenzene	0.500	0.754	^3+	ug/L		151	50 - 150
Tetrachloroethene (PCE)	0.500	0.607		ug/L		121	50 - 150
Toluene	0.500	0.621		ug/L		124	50 - 150
trans-1,2-Dichloroethylene	0.500	0.623		ug/L		125	50 - 150
trans-1,3-Dichloropropene	0.500	0.500		ug/L		100	50 - 150
Trichloroethylene (TCE)	0.500	0.605		ug/L		121	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.634		ug/L		127	50 - 150
Trichlorotrifluoroethane	0.500	0.608		ug/L		122	50 - 150
Vinyl Chloride (VC)	0.500	0.562		ug/L		112	50 - 150
Xylenes, Total	1.50	1.86		ug/L		124	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	102		70 - 130
Toluene-d8 (Surr)	99		70 - 130

**Lab Sample ID: MB 380-111817/5**  
**Matrix: Water**  
**Analysis Batch: 111817**

**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			10/05/24 07:07	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			10/05/24 07:07	1
1,1-Dichloroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,1-Dichloropropene	<0.50		0.50	ug/L			10/05/24 07:07	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
1,2-Dichloroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,2-Dichloropropane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
1,3-Dichloropropane	<0.50		0.50	ug/L			10/05/24 07:07	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			10/05/24 07:07	1
2,2-Dichloropropane	<0.50		0.50	ug/L			10/05/24 07:07	1
2-Butanone (MEK)	<5.0		5.0	ug/L			10/05/24 07:07	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			10/05/24 07:07	1
Acetone	<500		500	ug/L			10/05/24 07:07	1
Benzene	<0.50		0.50	ug/L			10/05/24 07:07	1
Bromobenzene	<0.50		0.50	ug/L			10/05/24 07:07	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111817/5**  
**Matrix: Water**  
**Analysis Batch: 111817**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Bromodichloromethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Bromoethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Bromoform	<0.50		0.50	ug/L			10/05/24 07:07	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			10/05/24 07:07	1
Carbon disulfide	<0.50		0.50	ug/L			10/05/24 07:07	1
Carbon tetrachloride	<0.50		0.50	ug/L			10/05/24 07:07	1
Chlorobenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
Chlorodibromomethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Chloroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			10/05/24 07:07	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			10/05/24 07:07	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/05/24 07:07	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			10/05/24 07:07	1
Dibromomethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Dichloromethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Diisopropyl ether	<3.0		3.0	ug/L			10/05/24 07:07	1
Ethylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
Hexachlorobutadiene	<0.50		0.50	ug/L			10/05/24 07:07	1
Isopropylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
m,p-Xylenes	<0.50		0.50	ug/L			10/05/24 07:07	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			10/05/24 07:07	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			10/05/24 07:07	1
Naphthalene	<0.50		0.50	ug/L			10/05/24 07:07	1
n-Butylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
N-Propylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
o-Chlorotoluene	<0.50		0.50	ug/L			10/05/24 07:07	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			10/05/24 07:07	1
o-Xylene	<0.50		0.50	ug/L			10/05/24 07:07	1
p-Chlorotoluene	<0.50		0.50	ug/L			10/05/24 07:07	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			10/05/24 07:07	1
p-Isopropyltoluene	<0.50		0.50	ug/L			10/05/24 07:07	1
sec-Butylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
Styrene	<0.50		0.50	ug/L			10/05/24 07:07	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			10/05/24 07:07	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			10/05/24 07:07	1
tert-Butylbenzene	<0.50		0.50	ug/L			10/05/24 07:07	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			10/05/24 07:07	1
Toluene	<0.50		0.50	ug/L			10/05/24 07:07	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/05/24 07:07	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			10/05/24 07:07	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			10/05/24 07:07	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			10/05/24 07:07	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			10/05/24 07:07	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			10/05/24 07:07	1
Xylenes, Total	<0.50		0.50	ug/L			10/05/24 07:07	1

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111817/5**  
**Matrix: Water**  
**Analysis Batch: 111817**

**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>
Unknown	0.589	T J	ug/L		2.61	N/A		10/05/24 07:07	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)	101		70 - 130		10/05/24 07:07	1
4-Bromofluorobenzene (Surr)	107		70 - 130		10/05/24 07:07	1
Toluene-d8 (Surr)	98		70 - 130		10/05/24 07:07	1

**Lab Sample ID: LCS 380-111817/3**  
**Matrix: Water**  
**Analysis Batch: 111817**

**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	4.42		ug/L		88	70 - 130
1,1,1-Trichloroethane	5.00	4.28		ug/L		86	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.56		ug/L		91	70 - 130
1,1,2-Trichloroethane	5.00	4.31		ug/L		86	70 - 130
1,1-Dichlorethylene	5.00	4.40		ug/L		88	70 - 130
1,1-Dichloroethane	5.00	4.41		ug/L		88	70 - 130
1,1-Dichloropropene	5.00	4.44		ug/L		89	70 - 130
1,2,3-Trichlorobenzene	5.00	4.98		ug/L		100	70 - 130
1,2,3-Trichloropropane	5.00	4.64		ug/L		93	70 - 130
1,2,4-Trichlorobenzene	5.00	5.18		ug/L		104	70 - 130
1,2,4-Trimethylbenzene	5.00	4.81		ug/L		96	70 - 130
1,2-Dichloroethane	5.00	4.48		ug/L		90	70 - 130
1,2-Dichloropropane	5.00	4.32		ug/L		86	70 - 130
1,3,5-Trimethylbenzene	5.00	4.77		ug/L		95	70 - 130
1,3-Dichloropropane	5.00	4.35		ug/L		87	70 - 130
1,3-Dichloropropene, Total	10.0	8.39		ug/L		84	70 - 130
2,2-Dichloropropane	5.00	3.81		ug/L		76	70 - 130
2-Butanone (MEK)	50.0	42.1		ug/L		84	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	43.8		ug/L		88	70 - 130
Acetone	50.0	45.8	J	ug/L		92	70 - 130
Benzene	5.00	4.37		ug/L		87	70 - 130
Bromobenzene	5.00	4.37		ug/L		87	70 - 130
Bromochloromethane	5.00	4.37		ug/L		87	70 - 130
Bromodichloromethane	5.00	4.51		ug/L		90	70 - 130
Bromoethane	5.00	4.42		ug/L		88	70 - 130
Bromoform	5.00	4.94		ug/L		99	70 - 130
Bromomethane (Methyl Bromide)	5.00	4.41		ug/L		88	70 - 130
Carbon disulfide	5.00	3.87		ug/L		77	70 - 130
Carbon tetrachloride	5.00	4.26		ug/L		85	70 - 130
Chlorobenzene	5.00	4.31		ug/L		86	70 - 130
Chlorodibromomethane	5.00	4.65		ug/L		93	70 - 130
cis-1,3-Dichloropropene	5.00	4.16		ug/L		83	70 - 130
Dichloromethane	5.00	4.15		ug/L		83	70 - 130
Diisopropyl ether	5.00	4.41		ug/L		88	70 - 130
Ethylbenzene	5.00	4.40		ug/L		88	70 - 130
Hexachlorobutadiene	5.00	5.25		ug/L		105	70 - 130

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111817/3**  
**Matrix: Water**  
**Analysis Batch: 111817**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isopropylbenzene	5.00	4.59		ug/L		92	70 - 130
m,p-Xylenes	10.0	8.75		ug/L		88	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.57		ug/L		91	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.23		ug/L		85	70 - 130
Naphthalene	5.00	5.05		ug/L		101	70 - 130
n-Butylbenzene	5.00	4.70		ug/L		94	70 - 130
N-Propylbenzene	5.00	4.58		ug/L		92	70 - 130
o-Chlorotoluene	5.00	4.62		ug/L		92	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.65		ug/L		93	70 - 130
o-Xylene	5.00	4.48		ug/L		90	70 - 130
p-Chlorotoluene	5.00	4.36		ug/L		87	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.48		ug/L		90	70 - 130
p-Isopropyltoluene	5.00	4.94		ug/L		99	70 - 130
sec-Butylbenzene	5.00	4.88		ug/L		98	70 - 130
Styrene	5.00	4.41		ug/L		88	70 - 130
Tert-amyl methyl ether	5.00	4.33		ug/L		87	70 - 130
Tert-butyl ethyl ether	5.00	4.31		ug/L		86	70 - 130
tert-Butylbenzene	5.00	4.66		ug/L		93	70 - 130
Tetrachloroethene (PCE)	5.00	4.21		ug/L		84	70 - 130
Toluene	5.00	4.33		ug/L		87	70 - 130
trans-1,2-Dichloroethylene	5.00	4.31		ug/L		86	70 - 130
trans-1,3-Dichloropropene	5.00	4.23		ug/L		85	70 - 130
Trichloroethylene (TCE)	5.00	4.31		ug/L		86	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.13		ug/L		103	70 - 130
Trichlorotrifluoroethane	5.00	4.58		ug/L		92	70 - 130
Vinyl Chloride (VC)	5.00	4.67		ug/L		93	70 - 130
Xylenes, Total	15.0	13.2		ug/L		88	70 - 130

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

**Lab Sample ID: LCSD 380-111817/4**  
**Matrix: Water**  
**Analysis Batch: 111817**

**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	4.22		ug/L		84	70 - 130	5	20
1,1,1-Trichloroethane	5.00	4.31		ug/L		86	70 - 130	1	20
1,1,1,2,2-Tetrachloroethane	5.00	4.64		ug/L		93	70 - 130	2	20
1,1,2-Trichloroethane	5.00	4.26		ug/L		85	70 - 130	1	20
1,1-Dichloroethylene	5.00	4.56		ug/L		91	70 - 130	4	20
1,1-Dichloroethane	5.00	4.50		ug/L		90	70 - 130	2	20
1,1-Dichloropropene	5.00	4.50		ug/L		90	70 - 130	1	20
1,2,3-Trichlorobenzene	5.00	4.54		ug/L		91	70 - 130	9	20
1,2,3-Trichloropropane	5.00	4.63		ug/L		93	70 - 130	0	20
1,2,4-Trichlorobenzene	5.00	4.73		ug/L		95	70 - 130	9	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111817/4**  
**Matrix: Water**  
**Analysis Batch: 111817**

**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	4.68		ug/L		94	70 - 130	3	20
1,2-Dichloroethane	5.00	4.56		ug/L		91	70 - 130	2	20
1,2-Dichloropropane	5.00	4.30		ug/L		86	70 - 130	0	20
1,3,5-Trimethylbenzene	5.00	4.64		ug/L		93	70 - 130	3	20
1,3-Dichloropropane	5.00	4.27		ug/L		85	70 - 130	2	20
1,3-Dichloropropene, Total	10.0	7.86		ug/L		79	70 - 130	7	20
2,2-Dichloropropane	5.00	3.54		ug/L		71	70 - 130	7	20
2-Butanone (MEK)	50.0	41.8		ug/L		84	70 - 130	1	20
4-Methyl-2-pentanone (MIBK)	50.0	43.3		ug/L		87	70 - 130	1	20
Acetone	50.0	42.8	J	ug/L		86	70 - 130	7	20
Benzene	5.00	4.32		ug/L		86	70 - 130	1	20
Bromobenzene	5.00	4.38		ug/L		88	70 - 130	0	20
Bromochloromethane	5.00	4.38		ug/L		88	70 - 130	0	20
Bromodichloromethane	5.00	4.42		ug/L		88	70 - 130	2	20
Bromoethane	5.00	4.47		ug/L		89	70 - 130	1	20
Bromoform	5.00	4.73		ug/L		95	70 - 130	4	20
Bromomethane (Methyl Bromide)	5.00	4.97		ug/L		99	70 - 130	12	20
Carbon disulfide	5.00	4.19		ug/L		84	70 - 130	8	20
Carbon tetrachloride	5.00	4.29		ug/L		86	70 - 130	1	20
Chlorobenzene	5.00	4.36		ug/L		87	70 - 130	1	20
Chlorodibromomethane	5.00	4.53		ug/L		91	70 - 130	2	20
cis-1,3-Dichloropropene	5.00	3.94		ug/L		79	70 - 130	6	20
Dichloromethane	5.00	4.37		ug/L		87	70 - 130	5	20
Diisopropyl ether	5.00	4.45		ug/L		89	70 - 130	1	20
Ethylbenzene	5.00	4.33		ug/L		87	70 - 130	1	20
Hexachlorobutadiene	5.00	4.62		ug/L		92	70 - 130	13	20
Isopropylbenzene	5.00	4.46		ug/L		89	70 - 130	3	20
m,p-Xylenes	10.0	8.69		ug/L		87	70 - 130	1	20
m-Dichlorobenzene (1,3-DCB)	5.00	4.49		ug/L		90	70 - 130	2	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.43		ug/L		89	70 - 130	5	20
Naphthalene	5.00	4.60		ug/L		92	70 - 130	9	20
n-Butylbenzene	5.00	4.46		ug/L		89	70 - 130	5	20
N-Propylbenzene	5.00	4.49		ug/L		90	70 - 130	2	20
o-Chlorotoluene	5.00	4.55		ug/L		91	70 - 130	2	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.52		ug/L		90	70 - 130	3	20
o-Xylene	5.00	4.46		ug/L		89	70 - 130	1	20
p-Chlorotoluene	5.00	4.46		ug/L		89	70 - 130	2	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.44		ug/L		89	70 - 130	1	20
p-Isopropyltoluene	5.00	4.74		ug/L		95	70 - 130	4	20
sec-Butylbenzene	5.00	4.69		ug/L		94	70 - 130	4	20
Styrene	5.00	4.41		ug/L		88	70 - 130	0	20
Tert-amyl methyl ether	5.00	4.39		ug/L		88	70 - 130	1	20
Tert-butyl ethyl ether	5.00	4.44		ug/L		89	70 - 130	3	20
tert-Butylbenzene	5.00	4.42		ug/L		88	70 - 130	5	20
Tetrachloroethene (PCE)	5.00	4.10		ug/L		82	70 - 130	3	20
Toluene	5.00	4.25		ug/L		85	70 - 130	2	20
trans-1,2-Dichloroethylene	5.00	4.43		ug/L		89	70 - 130	3	20
trans-1,3-Dichloropropene	5.00	3.92		ug/L		78	70 - 130	8	20
Trichloroethylene (TCE)	5.00	4.30		ug/L		86	70 - 130	0	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111817/4**  
**Matrix: Water**  
**Analysis Batch: 111817**

**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	5.29		ug/L		106	70 - 130	3	20
Trichlorotrifluoroethane	5.00	4.80		ug/L		96	70 - 130	5	20
Vinyl Chloride (VC)	5.00	4.87		ug/L		97	70 - 130	4	20
Xylenes, Total	15.0	13.1		ug/L		88	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	102		70 - 130
Toluene-d8 (Surr)	96		70 - 130

**Lab Sample ID: MB 380-111986/8**  
**Matrix: Water**  
**Analysis Batch: 111986**

**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			10/06/24 13:14	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			10/06/24 13:14	1
1,1-Dichloroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,1-Dichloropropene	<0.50		0.50	ug/L			10/06/24 13:14	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
1,2-Dichloroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,2-Dichloropropane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
1,3-Dichloropropane	<0.50		0.50	ug/L			10/06/24 13:14	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			10/06/24 13:14	1
2,2-Dichloropropane	<0.50		0.50	ug/L			10/06/24 13:14	1
2-Butanone (MEK)	<5.0		5.0	ug/L			10/06/24 13:14	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			10/06/24 13:14	1
Acetone	<500		500	ug/L			10/06/24 13:14	1
Benzene	<0.50		0.50	ug/L			10/06/24 13:14	1
Bromobenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
Bromochloromethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Bromodichloromethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Bromoethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Bromoform	<0.50		0.50	ug/L			10/06/24 13:14	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			10/06/24 13:14	1
Carbon disulfide	<0.50		0.50	ug/L			10/06/24 13:14	1
Carbon tetrachloride	<0.50		0.50	ug/L			10/06/24 13:14	1
Chlorobenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
Chlorodibromomethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Chloroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			10/06/24 13:14	1

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111986/8**  
**Matrix: Water**  
**Analysis Batch: 111986**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			10/06/24 13:14	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/06/24 13:14	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			10/06/24 13:14	1
Dibromomethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Dichloromethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Diisopropyl ether	<3.0		3.0	ug/L			10/06/24 13:14	1
Ethylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
Hexachlorobutadiene	<0.50		0.50	ug/L			10/06/24 13:14	1
Isopropylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
m,p-Xylenes	<0.50		0.50	ug/L			10/06/24 13:14	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			10/06/24 13:14	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			10/06/24 13:14	1
Naphthalene	<0.50		0.50	ug/L			10/06/24 13:14	1
n-Butylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
N-Propylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
o-Chlorotoluene	<0.50		0.50	ug/L			10/06/24 13:14	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			10/06/24 13:14	1
o-Xylene	<0.50		0.50	ug/L			10/06/24 13:14	1
p-Chlorotoluene	<0.50		0.50	ug/L			10/06/24 13:14	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			10/06/24 13:14	1
p-Isopropyltoluene	<0.50		0.50	ug/L			10/06/24 13:14	1
sec-Butylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
Styrene	<0.50		0.50	ug/L			10/06/24 13:14	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			10/06/24 13:14	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			10/06/24 13:14	1
tert-Butylbenzene	<0.50		0.50	ug/L			10/06/24 13:14	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			10/06/24 13:14	1
Toluene	<0.50		0.50	ug/L			10/06/24 13:14	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/06/24 13:14	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			10/06/24 13:14	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			10/06/24 13:14	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			10/06/24 13:14	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			10/06/24 13:14	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			10/06/24 13:14	1
Xylenes, Total	<0.50		0.50	ug/L			10/06/24 13:14	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		10/06/24 13:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		10/06/24 13:14	1
4-Bromofluorobenzene (Surr)	99		70 - 130		10/06/24 13:14	1
Toluene-d8 (Surr)	94		70 - 130		10/06/24 13:14	1

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111986/5**  
**Matrix: Water**  
**Analysis Batch: 111986**

**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	4.27		ug/L		85	70 - 130
1,1,1-Trichloroethane	5.00	4.21		ug/L		84	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.42		ug/L		88	70 - 130
1,1,2-Trichloroethane	5.00	4.16		ug/L		83	70 - 130
1,1-Dichlorethylene	5.00	4.31		ug/L		86	70 - 130
1,1-Dichloroethane	5.00	4.36		ug/L		87	70 - 130
1,1-Dichloropropene	5.00	4.52		ug/L		90	70 - 130
1,2,3-Trichlorobenzene	5.00	4.50		ug/L		90	70 - 130
1,2,3-Trichloropropane	5.00	4.46		ug/L		89	70 - 130
1,2,4-Trichlorobenzene	5.00	4.76		ug/L		95	70 - 130
1,2,4-Trimethylbenzene	5.00	4.72		ug/L		94	70 - 130
1,2-Dichloroethane	5.00	4.40		ug/L		88	70 - 130
1,2-Dichloropropane	5.00	4.16		ug/L		83	70 - 130
1,3,5-Trimethylbenzene	5.00	4.74		ug/L		95	70 - 130
1,3-Dichloropropane	5.00	4.20		ug/L		84	70 - 130
1,3-Dichloropropene, Total	10.0	8.85		ug/L		89	70 - 130
2,2-Dichloropropane	5.00	4.46		ug/L		89	70 - 130
2-Butanone (MEK)	50.0	41.7		ug/L		83	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	41.7		ug/L		83	70 - 130
Acetone	50.0	43.4	J	ug/L		87	70 - 130
Benzene	5.00	4.30		ug/L		86	70 - 130
Bromobenzene	5.00	4.22		ug/L		84	70 - 130
Bromochloromethane	5.00	4.15		ug/L		83	70 - 130
Bromodichloromethane	5.00	4.53		ug/L		91	70 - 130
Bromoethane	5.00	4.34		ug/L		87	70 - 130
Bromoform	5.00	5.17		ug/L		103	70 - 130
Bromomethane (Methyl Bromide)	5.00	4.10		ug/L		82	70 - 130
Carbon disulfide	5.00	4.37		ug/L		87	70 - 130
Carbon tetrachloride	5.00	4.27		ug/L		85	70 - 130
Chlorobenzene	5.00	4.19		ug/L		84	70 - 130
Chlorodibromomethane	5.00	4.77		ug/L		95	70 - 130
cis-1,3-Dichloropropene	5.00	4.27		ug/L		85	70 - 130
Dichloromethane	5.00	4.11		ug/L		82	70 - 130
Diisopropyl ether	5.00	4.32		ug/L		86	70 - 130
Ethylbenzene	5.00	4.29		ug/L		86	70 - 130
Hexachlorobutadiene	5.00	4.72		ug/L		94	70 - 130
Isopropylbenzene	5.00	4.45		ug/L		89	70 - 130
m,p-Xylenes	10.0	8.50		ug/L		85	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.42		ug/L		88	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.14		ug/L		83	70 - 130
Naphthalene	5.00	4.46		ug/L		89	70 - 130
n-Butylbenzene	5.00	4.64		ug/L		93	70 - 130
N-Propylbenzene	5.00	4.50		ug/L		90	70 - 130
o-Chlorotoluene	5.00	4.54		ug/L		91	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.38		ug/L		88	70 - 130
o-Xylene	5.00	4.32		ug/L		86	70 - 130
p-Chlorotoluene	5.00	4.30		ug/L		86	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.34		ug/L		87	70 - 130



# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111986/5**  
**Matrix: Water**  
**Analysis Batch: 111986**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
p-Isopropyltoluene	5.00	4.86		ug/L		97	70 - 130
sec-Butylbenzene	5.00	4.74		ug/L		95	70 - 130
Styrene	5.00	4.19		ug/L		84	70 - 130
Tert-amyl methyl ether	5.00	4.23		ug/L		85	70 - 130
Tert-butyl ethyl ether	5.00	4.24		ug/L		85	70 - 130
tert-Butylbenzene	5.00	4.51		ug/L		90	70 - 130
Tetrachloroethene (PCE)	5.00	4.20		ug/L		84	70 - 130
Toluene	5.00	4.21		ug/L		84	70 - 130
trans-1,2-Dichloroethylene	5.00	4.25		ug/L		85	70 - 130
trans-1,3-Dichloropropene	5.00	4.58		ug/L		92	70 - 130
Trichloroethylene (TCE)	5.00	4.20		ug/L		84	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.79		ug/L		96	70 - 130
Trichlorotrifluoroethane	5.00	4.67		ug/L		93	70 - 130
Vinyl Chloride (VC)	5.00	4.66		ug/L		93	70 - 130
Xylenes, Total	15.0	12.8		ug/L		85	70 - 130

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

**Lab Sample ID: LCSD 380-111986/6**  
**Matrix: Water**  
**Analysis Batch: 111986**

**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
1,1,1,2-Tetrachloroethane	5.00	4.92		ug/L		98	70 - 130	14	20
1,1,1-Trichloroethane	5.00	4.78		ug/L		96	70 - 130	13	20
1,1,2,2-Tetrachloroethane	5.00	4.54		ug/L		91	70 - 130	3	20
1,1,2-Trichloroethane	5.00	4.75		ug/L		95	70 - 130	13	20
1,1-Dichloroethylene	5.00	4.97		ug/L		99	70 - 130	14	20
1,1-Dichloroethane	5.00	4.92		ug/L		98	70 - 130	12	20
1,1-Dichloropropene	5.00	5.11		ug/L		102	70 - 130	12	20
1,2,3-Trichlorobenzene	5.00	4.60		ug/L		92	70 - 130	2	20
1,2,3-Trichloropropane	5.00	4.56		ug/L		91	70 - 130	2	20
1,2,4-Trichlorobenzene	5.00	4.86		ug/L		97	70 - 130	2	20
1,2,4-Trimethylbenzene	5.00	4.66		ug/L		93	70 - 130	1	20
1,2-Dichloroethane	5.00	5.08		ug/L		102	70 - 130	14	20
1,2-Dichloropropane	5.00	4.74		ug/L		95	70 - 130	13	20
1,3,5-Trimethylbenzene	5.00	4.75		ug/L		95	70 - 130	0	20
1,3-Dichloropropane	5.00	4.85		ug/L		97	70 - 130	14	20
1,3-Dichloropropene, Total	10.0	10.1		ug/L		101	70 - 130	13	20
2,2-Dichloropropane	5.00	5.12		ug/L		102	70 - 130	14	20
2-Butanone (MEK)	50.0	47.4		ug/L		95	70 - 130	13	20
4-Methyl-2-pentanone (MIBK)	50.0	47.7		ug/L		95	70 - 130	13	20
Acetone	50.0	50.5	J	ug/L		101	70 - 130	15	20
Benzene	5.00	4.91		ug/L		98	70 - 130	13	20
Bromobenzene	5.00	4.31		ug/L		86	70 - 130	2	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111986/6**  
**Matrix: Water**  
**Analysis Batch: 111986**

**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
Bromochloromethane	5.00	4.67		ug/L		93	70 - 130	12	20
Bromodichloromethane	5.00	5.18		ug/L		104	70 - 130	13	20
Bromoethane	5.00	4.92		ug/L		98	70 - 130	12	20
Bromoform	5.00	5.39		ug/L		108	70 - 130	4	20
Bromomethane (Methyl Bromide)	5.00	4.72		ug/L		94	70 - 130	14	20
Carbon disulfide	5.00	4.96		ug/L		99	70 - 130	13	20
Carbon tetrachloride	5.00	4.89		ug/L		98	70 - 130	14	20
Chlorobenzene	5.00	4.78		ug/L		96	70 - 130	13	20
Chlorodibromomethane	5.00	5.56		ug/L		111	70 - 130	15	20
cis-1,3-Dichloropropene	5.00	4.91		ug/L		98	70 - 130	14	20
Dichloromethane	5.00	4.72		ug/L		94	70 - 130	14	20
Diisopropyl ether	5.00	4.96		ug/L		99	70 - 130	14	20
Ethylbenzene	5.00	4.87		ug/L		97	70 - 130	13	20
Hexachlorobutadiene	5.00	4.89		ug/L		98	70 - 130	3	20
Isopropylbenzene	5.00	4.55		ug/L		91	70 - 130	2	20
m,p-Xylenes	10.0	9.66		ug/L		97	70 - 130	13	20
m-Dichlorobenzene (1,3-DCB)	5.00	4.52		ug/L		90	70 - 130	2	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.78		ug/L		96	70 - 130	14	20
Naphthalene	5.00	4.63		ug/L		93	70 - 130	4	20
n-Butylbenzene	5.00	4.79		ug/L		96	70 - 130	3	20
N-Propylbenzene	5.00	4.54		ug/L		91	70 - 130	1	20
o-Chlorotoluene	5.00	4.59		ug/L		92	70 - 130	1	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.58		ug/L		92	70 - 130	4	20
o-Xylene	5.00	4.89		ug/L		98	70 - 130	12	20
p-Chlorotoluene	5.00	4.45		ug/L		89	70 - 130	3	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.43		ug/L		89	70 - 130	2	20
p-Isopropyltoluene	5.00	4.88		ug/L		98	70 - 130	0	20
sec-Butylbenzene	5.00	4.86		ug/L		97	70 - 130	2	20
Styrene	5.00	4.85		ug/L		97	70 - 130	15	20
Tert-amyl methyl ether	5.00	4.85		ug/L		97	70 - 130	14	20
Tert-butyl ethyl ether	5.00	4.87		ug/L		97	70 - 130	14	20
tert-Butylbenzene	5.00	4.57		ug/L		91	70 - 130	1	20
Tetrachloroethene (PCE)	5.00	4.72		ug/L		94	70 - 130	12	20
Toluene	5.00	4.80		ug/L		96	70 - 130	13	20
trans-1,2-Dichloroethylene	5.00	4.90		ug/L		98	70 - 130	14	20
trans-1,3-Dichloropropene	5.00	5.20		ug/L		104	70 - 130	13	20
Trichloroethylene (TCE)	5.00	4.75		ug/L		95	70 - 130	12	20
Trichlorofluoromethane (Freon 11)	5.00	5.46		ug/L		109	70 - 130	13	20
Trichlorotrifluoroethane	5.00	5.38		ug/L		108	70 - 130	14	20
Vinyl Chloride (VC)	5.00	5.33		ug/L		107	70 - 130	13	20
Xylenes, Total	15.0	14.6		ug/L		97	70 - 130	13	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	112		70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111986/3**  
**Matrix: Water**  
**Analysis Batch: 111986**

**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	0.535		ug/L		107	50 - 150
Vinyl Chloride (VC)	0.250	0.269	J	ug/L		108	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	95		70 - 130

**Lab Sample ID: MRL 380-111986/4**  
**Matrix: Water**  
**Analysis Batch: 111986**

**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	0.468	J	ug/L		94	50 - 150
1,1,1-Trichloroethane	0.500	0.506		ug/L		101	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.477	J	ug/L		95	50 - 150
1,1,2-Trichloroethane	0.500	0.496	J	ug/L		99	50 - 150
1,1-Dichlorethylene	0.500	0.563		ug/L		113	50 - 150
1,1-Dichloroethane	0.500	0.538		ug/L		108	50 - 150
1,1-Dichloropropene	0.500	0.578		ug/L		116	50 - 150
1,2,3-Trichlorobenzene	0.500	0.551		ug/L		110	50 - 150
1,2,3-Trichloropropane	0.500	0.478	J	ug/L		96	50 - 150
1,2,4-Trichlorobenzene	0.500	0.550		ug/L		110	50 - 150
1,2,4-Trimethylbenzene	0.500	0.492	J	ug/L		98	50 - 150
1,2-Dichloroethane	0.500	0.552		ug/L		110	50 - 150
1,2-Dichloropropane	0.500	0.502		ug/L		100	50 - 150
1,3,5-Trimethylbenzene	0.500	0.486	J	ug/L		97	50 - 150
1,3-Dichloropropane	0.500	0.511		ug/L		102	50 - 150
1,3-Dichloropropene, Total	1.00	0.886		ug/L		89	50 - 150
2,2-Dichloropropane	0.500	0.636		ug/L		127	50 - 150
2-Butanone (MEK)	5.00	5.68		ug/L		114	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	5.40		ug/L		108	50 - 150
Benzene	0.500	0.567		ug/L		113	50 - 150
Bromobenzene	0.500	0.448	J	ug/L		90	50 - 150
Bromochloromethane	0.500	0.508		ug/L		102	50 - 150
Bromodichloromethane	0.500	0.525		ug/L		105	50 - 150
Bromoethane	0.500	0.556		ug/L		111	50 - 150
Bromoform	0.500	0.485	J	ug/L		97	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.485	J	ug/L		97	50 - 150
Carbon disulfide	0.500	0.505		ug/L		101	50 - 150
Carbon tetrachloride	0.500	0.490	J	ug/L		98	50 - 150
Chlorobenzene	0.500	0.499	J	ug/L		100	50 - 150
Chlorodibromomethane	0.500	0.514		ug/L		103	50 - 150
cis-1,3-Dichloropropene	0.500	0.466	J	ug/L		93	50 - 150
Dichloromethane	0.500	0.533		ug/L		107	50 - 150
Diisopropyl ether	0.500	0.640	J	ug/L		128	50 - 150
Ethylbenzene	0.500	0.522		ug/L		104	50 - 150
Hexachlorobutadiene	0.500	0.557		ug/L		111	50 - 150

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111986/4**  
**Matrix: Water**  
**Analysis Batch: 111986**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Isopropylbenzene	0.500	0.469	J	ug/L		94	50 - 150
m,p-Xylenes	1.00	0.996		ug/L		100	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.478	J	ug/L		96	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.532		ug/L		106	50 - 150
Naphthalene	0.500	0.521		ug/L		104	50 - 150
n-Butylbenzene	0.500	0.531		ug/L		106	50 - 150
N-Propylbenzene	0.500	0.481	J	ug/L		96	50 - 150
o-Chlorotoluene	0.500	0.477	J	ug/L		95	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.514		ug/L		103	50 - 150
o-Xylene	0.500	0.499	J	ug/L		100	50 - 150
p-Chlorotoluene	0.500	0.461	J	ug/L		92	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.473	J	ug/L		95	50 - 150
p-Isopropyltoluene	0.500	0.502		ug/L		100	50 - 150
sec-Butylbenzene	0.500	0.501		ug/L		100	50 - 150
Styrene	0.500	0.477	J	ug/L		95	50 - 150
Tert-amyl methyl ether	0.500	0.532	J	ug/L		106	50 - 150
Tert-butyl ethyl ether	0.500	0.544	J	ug/L		109	50 - 150
tert-Butylbenzene	0.500	0.499	J	ug/L		100	50 - 150
Tetrachloroethene (PCE)	0.500	0.501		ug/L		100	50 - 150
Toluene	0.500	0.535		ug/L		107	50 - 150
trans-1,2-Dichloroethylene	0.500	0.544		ug/L		109	50 - 150
trans-1,3-Dichloropropene	0.500	0.420	J	ug/L		84	50 - 150
Trichloroethylene (TCE)	0.500	0.495	J	ug/L		99	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.508		ug/L		102	50 - 150
Trichlorotrifluoroethane	0.500	0.488	J	ug/L		98	50 - 150
Vinyl Chloride (VC)	0.500	0.513		ug/L		103	50 - 150
Xylenes, Total	1.50	1.49		ug/L		100	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Toluene-d8 (Surr)	108		70 - 130

**Lab Sample ID: MB 380-112073/8**  
**Matrix: Water**  
**Analysis Batch: 112073**

**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			10/07/24 15:28	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			10/07/24 15:28	1
1,1-Dichloroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,1-Dichloropropene	<0.50		0.50	ug/L			10/07/24 15:28	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			10/07/24 15:28	1

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# QC Sample Results

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-112073/8**  
**Matrix: Water**  
**Analysis Batch: 112073**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
1,2-Dichloroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,2-Dichloropropane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
1,3-Dichloropropane	<0.50		0.50	ug/L			10/07/24 15:28	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			10/07/24 15:28	1
2,2-Dichloropropane	<0.50		0.50	ug/L			10/07/24 15:28	1
2-Butanone (MEK)	<5.0		5.0	ug/L			10/07/24 15:28	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			10/07/24 15:28	1
Acetone	<500		500	ug/L			10/07/24 15:28	1
Benzene	<0.50		0.50	ug/L			10/07/24 15:28	1
Bromobenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
Bromochloromethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Bromodichloromethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Bromoethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Bromoform	<0.50		0.50	ug/L			10/07/24 15:28	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			10/07/24 15:28	1
Carbon disulfide	<0.50		0.50	ug/L			10/07/24 15:28	1
Carbon tetrachloride	<0.50		0.50	ug/L			10/07/24 15:28	1
Chlorobenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
Chlorodibromomethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Chloroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			10/07/24 15:28	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			10/07/24 15:28	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/07/24 15:28	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			10/07/24 15:28	1
Dibromomethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Dichloromethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Diisopropyl ether	<3.0		3.0	ug/L			10/07/24 15:28	1
Ethylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
Hexachlorobutadiene	<0.50		0.50	ug/L			10/07/24 15:28	1
Isopropylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
m,p-Xylenes	<0.50		0.50	ug/L			10/07/24 15:28	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			10/07/24 15:28	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			10/07/24 15:28	1
Naphthalene	<0.50		0.50	ug/L			10/07/24 15:28	1
n-Butylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
N-Propylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
o-Chlorotoluene	<0.50		0.50	ug/L			10/07/24 15:28	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			10/07/24 15:28	1
o-Xylene	<0.50		0.50	ug/L			10/07/24 15:28	1
p-Chlorotoluene	<0.50		0.50	ug/L			10/07/24 15:28	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			10/07/24 15:28	1
p-Isopropyltoluene	<0.50		0.50	ug/L			10/07/24 15:28	1
sec-Butylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
Styrene	<0.50		0.50	ug/L			10/07/24 15:28	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			10/07/24 15:28	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			10/07/24 15:28	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-112073/8**  
**Matrix: Water**  
**Analysis Batch: 112073**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	<0.50		0.50	ug/L			10/07/24 15:28	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			10/07/24 15:28	1
Toluene	<0.50		0.50	ug/L			10/07/24 15:28	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			10/07/24 15:28	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			10/07/24 15:28	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			10/07/24 15:28	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			10/07/24 15:28	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			10/07/24 15:28	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			10/07/24 15:28	1
Xylenes, Total	<0.50		0.50	ug/L			10/07/24 15:28	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		10/07/24 15:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		10/07/24 15:28	1
4-Bromofluorobenzene (Surr)	100		70 - 130		10/07/24 15:28	1
Toluene-d8 (Surr)	90		70 - 130		10/07/24 15:28	1

**Lab Sample ID: LCS 380-112073/5**  
**Matrix: Water**  
**Analysis Batch: 112073**

**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	4.84		ug/L		97	70 - 130
1,1,1-Trichloroethane	5.00	4.71		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.57		ug/L		111	70 - 130
1,1,2-Trichloroethane	5.00	5.10		ug/L		102	70 - 130
1,1-Dichloroethylene	5.00	5.15		ug/L		103	70 - 130
1,1-Dichloroethane	5.00	5.08		ug/L		102	70 - 130
1,1-Dichloropropene	5.00	4.82		ug/L		96	70 - 130
1,2,3-Trichlorobenzene	5.00	5.44		ug/L		109	70 - 130
1,2,3-Trichloropropane	5.00	6.06		ug/L		121	70 - 130
1,2,4-Trichlorobenzene	5.00	5.32		ug/L		106	70 - 130
1,2,4-Trimethylbenzene	5.00	6.17		ug/L		123	70 - 130
1,2-Dichloroethane	5.00	5.15		ug/L		103	70 - 130
1,2-Dichloropropane	5.00	4.59		ug/L		92	70 - 130
1,3,5-Trimethylbenzene	5.00	6.12		ug/L		122	70 - 130
1,3-Dichloropropane	5.00	5.27		ug/L		105	70 - 130
1,3-Dichloropropene, Total	10.0	9.53		ug/L		95	70 - 130
2,2-Dichloropropane	5.00	4.61		ug/L		92	70 - 130
2-Butanone (MEK)	50.0	52.4		ug/L		105	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	48.6		ug/L		97	70 - 130
Acetone	50.0	49.7	J	ug/L		99	70 - 130
Benzene	5.00	5.44		ug/L		109	70 - 130
Bromobenzene	5.00	6.16		ug/L		123	70 - 130
Bromochloromethane	5.00	5.52		ug/L		110	70 - 130
Bromodichloromethane	5.00	4.05		ug/L		81	70 - 130

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-112073/5**  
**Matrix: Water**  
**Analysis Batch: 112073**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromoethane	5.00	4.95		ug/L		99	70 - 130
Bromoform	5.00	4.99		ug/L		100	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.20		ug/L		104	70 - 130
Carbon disulfide	5.00	4.20		ug/L		84	70 - 130
Carbon tetrachloride	5.00	4.28		ug/L		86	70 - 130
Chlorobenzene	5.00	5.72		ug/L		114	70 - 130
Chlorodibromomethane	5.00	4.32		ug/L		86	70 - 130
cis-1,3-Dichloropropene	5.00	4.89		ug/L		98	70 - 130
Dichloromethane	5.00	5.11		ug/L		102	70 - 130
Diisopropyl ether	5.00	5.05		ug/L		101	70 - 130
Ethylbenzene	5.00	5.61		ug/L		112	70 - 130
Hexachlorobutadiene	5.00	4.89		ug/L		98	70 - 130
Isopropylbenzene	5.00	6.06		ug/L		121	70 - 130
m,p-Xylenes	10.0	11.1		ug/L		111	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	6.54	*+	ug/L		131	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	5.13		ug/L		103	70 - 130
Naphthalene	5.00	5.66		ug/L		113	70 - 130
n-Butylbenzene	5.00	5.45		ug/L		109	70 - 130
N-Propylbenzene	5.00	5.57		ug/L		111	70 - 130
o-Chlorotoluene	5.00	5.80		ug/L		116	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	5.54		ug/L		111	70 - 130
o-Xylene	5.00	5.45		ug/L		109	70 - 130
p-Chlorotoluene	5.00	5.26		ug/L		105	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	6.16		ug/L		123	70 - 130
p-Isopropyltoluene	5.00	6.54	*+	ug/L		131	70 - 130
sec-Butylbenzene	5.00	6.17		ug/L		123	70 - 130
Styrene	5.00	5.73		ug/L		115	70 - 130
Tert-amyl methyl ether	5.00	5.07		ug/L		101	70 - 130
Tert-butyl ethyl ether	5.00	4.99		ug/L		100	70 - 130
tert-Butylbenzene	5.00	6.56	*+	ug/L		131	70 - 130
Tetrachloroethene (PCE)	5.00	5.15		ug/L		103	70 - 130
Toluene	5.00	5.46		ug/L		109	70 - 130
trans-1,2-Dichloroethylene	5.00	5.02		ug/L		100	70 - 130
trans-1,3-Dichloropropene	5.00	4.64		ug/L		93	70 - 130
Trichloroethylene (TCE)	5.00	5.49		ug/L		110	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.50		ug/L		110	70 - 130
Trichlorotrifluoroethane	5.00	5.05		ug/L		101	70 - 130
Vinyl Chloride (VC)	5.00	5.32		ug/L		106	70 - 130
Xylenes, Total	15.0	16.5		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Toluene-d8 (Surr)	101		70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-112073/6**  
**Matrix: Water**  
**Analysis Batch: 112073**

**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	4.64		ug/L		93	70 - 130	4	20
1,1,1-Trichloroethane	5.00	4.43		ug/L		89	70 - 130	6	20
1,1,2,2-Tetrachloroethane	5.00	5.36		ug/L		107	70 - 130	4	20
1,1,2-Trichloroethane	5.00	4.91		ug/L		98	70 - 130	4	20
1,1-Dichloroethylene	5.00	4.93		ug/L		99	70 - 130	4	20
1,1-Dichloroethane	5.00	4.71		ug/L		94	70 - 130	8	20
1,1-Dichloropropene	5.00	4.61		ug/L		92	70 - 130	5	20
1,2,3-Trichlorobenzene	5.00	5.42		ug/L		108	70 - 130	0	20
1,2,3-Trichloropropane	5.00	5.58		ug/L		112	70 - 130	8	20
1,2,4-Trichlorobenzene	5.00	5.36		ug/L		107	70 - 130	1	20
1,2,4-Trimethylbenzene	5.00	5.84		ug/L		117	70 - 130	5	20
1,2-Dichloroethane	5.00	4.96		ug/L		99	70 - 130	4	20
1,2-Dichloropropane	5.00	4.42		ug/L		88	70 - 130	4	20
1,3,5-Trimethylbenzene	5.00	5.86		ug/L		117	70 - 130	4	20
1,3-Dichloropropane	5.00	5.06		ug/L		101	70 - 130	4	20
1,3-Dichloropropene, Total	10.0	8.94		ug/L		89	70 - 130	6	20
2,2-Dichloropropane	5.00	4.28		ug/L		86	70 - 130	7	20
2-Butanone (MEK)	50.0	48.3		ug/L		97	70 - 130	8	20
4-Methyl-2-pentanone (MIBK)	50.0	45.9		ug/L		92	70 - 130	6	20
Acetone	50.0	47.9	J	ug/L		96	70 - 130	4	20
Benzene	5.00	5.09		ug/L		102	70 - 130	7	20
Bromobenzene	5.00	5.91		ug/L		118	70 - 130	4	20
Bromochloromethane	5.00	5.18		ug/L		104	70 - 130	6	20
Bromodichloromethane	5.00	3.83		ug/L		77	70 - 130	5	20
Bromoethane	5.00	4.66		ug/L		93	70 - 130	6	20
Bromoform	5.00	4.89		ug/L		98	70 - 130	2	20
Bromomethane (Methyl Bromide)	5.00	4.91		ug/L		98	70 - 130	6	20
Carbon disulfide	5.00	3.97		ug/L		79	70 - 130	6	20
Carbon tetrachloride	5.00	4.08		ug/L		82	70 - 130	5	20
Chlorobenzene	5.00	5.39		ug/L		108	70 - 130	6	20
Chlorodibromomethane	5.00	4.03		ug/L		81	70 - 130	7	20
cis-1,3-Dichloropropene	5.00	4.63		ug/L		93	70 - 130	6	20
Dichloromethane	5.00	4.86		ug/L		97	70 - 130	5	20
Diisopropyl ether	5.00	4.79		ug/L		96	70 - 130	5	20
Ethylbenzene	5.00	5.37		ug/L		107	70 - 130	4	20
Hexachlorobutadiene	5.00	4.61		ug/L		92	70 - 130	6	20
Isopropylbenzene	5.00	5.90		ug/L		118	70 - 130	3	20
m,p-Xylenes	10.0	10.2		ug/L		102	70 - 130	8	20
m-Dichlorobenzene (1,3-DCB)	5.00	6.16		ug/L		123	70 - 130	6	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.90		ug/L		98	70 - 130	5	20
Naphthalene	5.00	5.74		ug/L		115	70 - 130	1	20
n-Butylbenzene	5.00	5.36		ug/L		107	70 - 130	2	20
N-Propylbenzene	5.00	5.26		ug/L		105	70 - 130	6	20
o-Chlorotoluene	5.00	5.85		ug/L		117	70 - 130	1	20
o-Dichlorobenzene (1,2-DCB)	5.00	5.40		ug/L		108	70 - 130	3	20
o-Xylene	5.00	5.22		ug/L		104	70 - 130	4	20
p-Chlorotoluene	5.00	5.01		ug/L		100	70 - 130	5	20
p-Dichlorobenzene (1,4-DCB)	5.00	6.26		ug/L		125	70 - 130	2	20

Eurofins Eaton Analytical Pomona



# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-112073/6**  
**Matrix: Water**  
**Analysis Batch: 112073**

**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
p-Isopropyltoluene	5.00	6.29		ug/L		126	70 - 130	4	20
sec-Butylbenzene	5.00	5.87		ug/L		117	70 - 130	5	20
Styrene	5.00	5.42		ug/L		108	70 - 130	5	20
Tert-amyl methyl ether	5.00	4.80		ug/L		96	70 - 130	5	20
Tert-butyl ethyl ether	5.00	4.65		ug/L		93	70 - 130	7	20
tert-Butylbenzene	5.00	6.26		ug/L		125	70 - 130	5	20
Tetrachloroethene (PCE)	5.00	4.97		ug/L		99	70 - 130	3	20
Toluene	5.00	5.16		ug/L		103	70 - 130	6	20
trans-1,2-Dichloroethylene	5.00	4.78		ug/L		96	70 - 130	5	20
trans-1,3-Dichloropropene	5.00	4.31		ug/L		86	70 - 130	7	20
Trichloroethylene (TCE)	5.00	5.16		ug/L		103	70 - 130	6	20
Trichlorofluoromethane (Freon 11)	5.00	5.26		ug/L		105	70 - 130	5	20
Trichlorotrifluoroethane	5.00	5.00		ug/L		100	70 - 130	1	20
Vinyl Chloride (VC)	5.00	5.08		ug/L		102	70 - 130	5	20
Xylenes, Total	15.0	15.4		ug/L		103	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	107		70 - 130
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: MRL 380-112073/3**  
**Matrix: Water**  
**Analysis Batch: 112073**

**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	0.656		ug/L		131	50 - 150
Vinyl Chloride (VC)	0.250	0.313		ug/L		125	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Toluene-d8 (Surr)	101		70 - 130

**Lab Sample ID: MRL 380-112073/4**  
**Matrix: Water**  
**Analysis Batch: 112073**

**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	0.425	J	ug/L		85	50 - 150
1,1,1-Trichloroethane	0.500	0.472	J	ug/L		94	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.585		ug/L		117	50 - 150
1,1,2-Trichloroethane	0.500	0.519		ug/L		104	50 - 150
1,1-Dichloroethylene	0.500	0.531		ug/L		106	50 - 150
1,1-Dichloroethane	0.500	0.527		ug/L		105	50 - 150
1,1-Dichloropropene	0.500	0.548		ug/L		110	50 - 150
1,2,3-Trichlorobenzene	0.500	0.642		ug/L		128	50 - 150

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-112073/4**  
**Matrix: Water**  
**Analysis Batch: 112073**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.500	0.578		ug/L		116	50 - 150
1,2,4-Trichlorobenzene	0.500	0.589		ug/L		118	50 - 150
1,2,4-Trimethylbenzene	0.500	0.642		ug/L		128	50 - 150
1,2-Dichloroethane	0.500	0.511		ug/L		102	50 - 150
1,2-Dichloropropane	0.500	0.523		ug/L		105	50 - 150
1,3,5-Trimethylbenzene	0.500	0.619		ug/L		124	50 - 150
1,3-Dichloropropane	0.500	0.531		ug/L		106	50 - 150
1,3-Dichloropropene, Total	1.00	0.813		ug/L		81	50 - 150
2,2-Dichloropropane	0.500	0.504		ug/L		101	50 - 150
2-Butanone (MEK)	5.00	5.06		ug/L		101	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	5.44		ug/L		109	50 - 150
Acetone	5.00	4.35	J	ug/L		87	50 - 150
Benzene	0.500	0.575		ug/L		115	50 - 150
Bromobenzene	0.500	0.561		ug/L		112	50 - 150
Bromochloromethane	0.500	0.576		ug/L		115	50 - 150
Bromodichloromethane	0.500	0.361	J	ug/L		72	50 - 150
Bromoethane	0.500	0.581		ug/L		116	50 - 150
Bromoform	0.500	0.528		ug/L		106	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.529		ug/L		106	50 - 150
Carbon disulfide	0.500	0.457	J	ug/L		91	50 - 150
Carbon tetrachloride	0.500	0.420	J	ug/L		84	50 - 150
Chlorobenzene	0.500	0.580		ug/L		116	50 - 150
Chlorodibromomethane	0.500	0.444	J	ug/L		89	50 - 150
cis-1,3-Dichloropropene	0.500	0.400	J	ug/L		80	50 - 150
Dichloromethane	0.500	0.606		ug/L		121	50 - 150
Diisopropyl ether	0.500	0.526	J	ug/L		105	50 - 150
Ethylbenzene	0.500	0.560		ug/L		112	50 - 150
Hexachlorobutadiene	0.500	0.520		ug/L		104	50 - 150
Isopropylbenzene	0.500	0.616		ug/L		123	50 - 150
m,p-Xylenes	1.00	1.16		ug/L		116	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.632		ug/L		126	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.550		ug/L		110	50 - 150
Naphthalene	0.500	0.658		ug/L		132	50 - 150
n-Butylbenzene	0.500	0.579		ug/L		116	50 - 150
N-Propylbenzene	0.500	0.582		ug/L		116	50 - 150
o-Chlorotoluene	0.500	0.635		ug/L		127	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.552		ug/L		110	50 - 150
o-Xylene	0.500	0.537		ug/L		107	50 - 150
p-Chlorotoluene	0.500	0.561		ug/L		112	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.676		ug/L		135	50 - 150
p-Isopropyltoluene	0.500	0.679		ug/L		136	50 - 150
sec-Butylbenzene	0.500	0.627		ug/L		125	50 - 150
Styrene	0.500	0.561		ug/L		112	50 - 150
Tert-amyl methyl ether	0.500	0.500	J	ug/L		100	50 - 150
Tert-butyl ethyl ether	0.500	0.500	J	ug/L		100	50 - 150
tert-Butylbenzene	0.500	0.642		ug/L		128	50 - 150
Tetrachloroethene (PCE)	0.500	0.556		ug/L		111	50 - 150
Toluene	0.500	0.567		ug/L		113	50 - 150
trans-1,2-Dichloroethylene	0.500	0.511		ug/L		102	50 - 150

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-112073/4**  
**Matrix: Water**  
**Analysis Batch: 112073**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,3-Dichloropropene	0.500	0.413	J	ug/L		83	50 - 150
Trichloroethylene (TCE)	0.500	0.521		ug/L		104	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.529		ug/L		106	50 - 150
Trichlorotrifluoroethane	0.500	0.581		ug/L		116	50 - 150
Vinyl Chloride (VC)	0.500	0.511		ug/L		102	50 - 150
Xylenes, Total	1.50	1.69		ug/L		113	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	110		70 - 130
Toluene-d8 (Surr)	100		70 - 130

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

**Lab Sample ID: MB 380-112090/5**  
**Matrix: Water**  
**Analysis Batch: 112090**

**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			10/07/24 17:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		10/07/24 17:11	1
4-Bromofluorobenzene (Surr)	104		70 - 130		10/07/24 17:11	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 130		10/07/24 17:11	1

**Lab Sample ID: LCS 380-112090/2**  
**Matrix: Water**  
**Analysis Batch: 112090**

**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	4.11		ug/L		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	102		70 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 130

**Lab Sample ID: LCSD 380-112090/3**  
**Matrix: Water**  
**Analysis Batch: 112090**

**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	4.56		ug/L		91	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-112090/3**  
**Matrix: Water**  
**Analysis Batch: 112090**

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

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	108		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130

**Lab Sample ID: MRL 380-112090/4**  
**Matrix: Water**  
**Analysis Batch: 112090**

**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	1.76	J	ug/L		88	50 - 150

Surrogate	MRL MRL		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		50 - 150
4-Bromofluorobenzene (Surr)	104		50 - 150
1,2-Dichloroethane-d4 (Surr)	101		50 - 150

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

**Lab Sample ID: MB 380-111994/21-A**  
**Matrix: Water**  
**Analysis Batch: 112221**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
2,4'-DDD	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
2,4'-DDE	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
2,4'-DDT	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
4,4'-DDD	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
4,4'-DDE	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
4,4'-DDT	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Acenaphthene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Acenaphthylene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Acetochlor	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Alachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
alpha-BHC	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
alpha-Chlordane	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Anthracene	<0.019		0.019	ug/L		10/06/24 12:09	10/08/24 10:03	1
Atrazine	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Benz(a)anthracene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Benzo[a]pyrene	<0.019		0.019	ug/L		10/06/24 12:09	10/08/24 10:03	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		10/06/24 12:09	10/08/24 10:03	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		10/06/24 12:09	10/08/24 10:03	1
beta-BHC	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		10/06/24 12:09	10/08/24 10:03	1
Aldrin	<0.0097		0.0097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Bromacil	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Butachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1

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# QC Sample Results

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111994/21-A**  
**Matrix: Water**  
**Analysis Batch: 112221**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Butylbenzylphthalate	<0.48		0.48	ug/L		10/06/24 12:09	10/08/24 10:03	1
Chlorobenzilate	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Chloroneb	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Chlorpyrifos	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Chrysene	<0.019		0.019	ug/L		10/06/24 12:09	10/08/24 10:03	1
delta-BHC	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		10/06/24 12:09	10/08/24 10:03	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Dieldrin	<0.0097		0.0097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Diethylphthalate	<0.48		0.48	ug/L		10/06/24 12:09	10/08/24 10:03	1
Dimethylphthalate	<0.48		0.48	ug/L		10/06/24 12:09	10/08/24 10:03	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		10/06/24 12:09	10/08/24 10:03	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Endosulfan sulfate	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Endrin	<0.0097		0.0097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Endrin aldehyde	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
EPTC	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Fluoranthene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Fluorene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
gamma-BHC (Lindane)	<0.0097		0.0097	ug/L		10/06/24 12:09	10/08/24 10:03	1
gamma-Chlordane	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Heptachlor	<0.0097		0.0097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Heptachlor epoxide (isomer B)	<0.0097		0.0097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Hexachlorobenzene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Isophorone	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Malathion	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Methoxychlor	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Metolachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Molinate	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Naphthalene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Parathion	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Phenanthrene	<0.039		0.039	ug/L		10/06/24 12:09	10/08/24 10:03	1
Propachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Pyrene	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Simazine	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Terbacil	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Terbutylazine	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Thiobencarb	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		10/06/24 12:09	10/08/24 10:03	1
trans-Nonachlor	<0.048		0.048	ug/L		10/06/24 12:09	10/08/24 10:03	1
Trifluralin	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1
1-Methylnaphthalene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111994/21-A**  
**Matrix: Water**  
**Analysis Batch: 112221**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
2-Methylnaphthalene	<0.097		0.097	ug/L		10/06/24 12:09	10/08/24 10:03	1	
<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>
<i>Tentatively Identified Compound</i>	<i>None</i>		<i>ug/L</i>			<i>N/A</i>	<i>10/06/24 12:09</i>	<i>10/08/24 10:03</i>	<i>1</i>
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
2-Nitro-m-xylene	96		70 - 130			10/06/24 12:09	10/08/24 10:03	1	
Perylene-d12	88		70 - 130			10/06/24 12:09	10/08/24 10:03	1	
Triphenylphosphate	105		70 - 130			10/06/24 12:09	10/08/24 10:03	1	

**Lab Sample ID: LCS 380-111994/23-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.95	2.01		ug/L		103	70 - 130
2,4'-DDE	1.95	2.07		ug/L		106	70 - 130
2,4'-DDT	1.95	1.82		ug/L		94	70 - 130
2,4-Dinitrotoluene	1.95	1.90		ug/L		98	70 - 130
2,6-Dinitrotoluene	1.95	1.89		ug/L		97	70 - 130
4,4'-DDD	1.95	2.01		ug/L		103	70 - 130
4,4'-DDE	1.95	2.03		ug/L		104	70 - 130
4,4'-DDT	1.95	1.83		ug/L		94	70 - 130
Acenaphthene	1.95	1.95		ug/L		100	70 - 130
Acenaphthylene	1.95	1.77		ug/L		91	70 - 130
Acetochlor	1.95	2.06		ug/L		106	70 - 130
Alachlor	1.95	2.07		ug/L		106	70 - 130
alpha-BHC	1.95	2.00		ug/L		103	70 - 130
alpha-Chlordane	1.95	2.13		ug/L		109	70 - 130
Anthracene	1.95	1.60		ug/L		82	70 - 130
Atrazine	1.95	1.94		ug/L		100	70 - 130
Benz(a)anthracene	1.95	1.80		ug/L		92	70 - 130
Benzo[a]pyrene	1.95	1.58		ug/L		81	70 - 130
Benzo[b]fluoranthene	1.95	1.83		ug/L		94	70 - 130
Benzo[g,h,i]perylene	1.95	1.83		ug/L		94	70 - 130
Benzo[k]fluoranthene	1.95	1.91		ug/L		98	70 - 130
beta-BHC	1.95	2.07		ug/L		106	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	1.77		ug/L		91	70 - 130
Aldrin	1.95	1.53		ug/L		79	70 - 130
Bromacil	1.95	1.86		ug/L		96	70 - 130
Butachlor	1.95	1.88		ug/L		96	70 - 130
Butylbenzylphthalate	1.95	1.92		ug/L		99	70 - 130
Chlorobenzilate	1.95	1.41		ug/L		72	70 - 130
Chloroneb	1.95	1.88		ug/L		97	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.03		ug/L		105	70 - 130
Chlorpyrifos	1.95	2.12		ug/L		109	70 - 130
Chrysene	1.95	2.00		ug/L		103	70 - 130
delta-BHC	1.95	2.04		ug/L		105	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111994/23-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Di(2-ethylhexyl)adipate	1.95	1.73		ug/L		89	70 - 130
Dibenz(a,h)anthracene	1.95	1.78		ug/L		91	70 - 130
Diclorvos (DDVP)	1.95	1.78		ug/L		92	70 - 130
Dieldrin	1.95	1.89		ug/L		97	70 - 130
Diethylphthalate	1.95	2.02		ug/L		104	70 - 130
Dimethylphthalate	1.95	1.92		ug/L		99	70 - 130
Di-n-butyl phthalate	3.89	3.98		ug/L		102	70 - 130
Di-n-octyl phthalate	1.95	1.72		ug/L		88	70 - 130
Endosulfan I (Alpha)	1.95	1.96		ug/L		101	70 - 130
Endosulfan II (Beta)	1.95	1.86		ug/L		96	70 - 130
Endosulfan sulfate	1.95	1.85		ug/L		95	70 - 130
Endrin	1.95	2.10		ug/L		108	70 - 130
Endrin aldehyde	1.95	1.81		ug/L		93	60 - 130
EPTC	1.95	1.95		ug/L		100	70 - 130
Fluoranthene	1.95	1.99		ug/L		102	70 - 130
Fluorene	1.95	1.96		ug/L		101	70 - 130
gamma-BHC (Lindane)	1.95	1.97		ug/L		101	70 - 130
gamma-Chlordane	1.95	2.10		ug/L		108	70 - 130
Heptachlor	1.95	1.99		ug/L		102	70 - 130
Heptachlor epoxide (isomer B)	1.95	1.98		ug/L		102	70 - 130
Hexachlorobenzene	1.95	1.95		ug/L		100	70 - 130
Hexachlorocyclopentadiene	1.95	1.92		ug/L		99	70 - 130
Indeno[1,2,3-cd]pyrene	1.95	1.53		ug/L		78	70 - 130
Isophorone	1.95	1.83		ug/L		94	70 - 130
Malathion	1.95	1.98		ug/L		101	70 - 130
Methoxychlor	1.95	1.69		ug/L		87	70 - 130
Metolachlor	1.95	2.15		ug/L		111	70 - 130
Molinate	1.95	1.97		ug/L		101	70 - 130
Naphthalene	1.95	1.82		ug/L		94	70 - 130
Parathion	1.95	2.21		ug/L		113	70 - 130
Pendimethalin (Penoxaline)	1.95	1.72		ug/L		88	70 - 130
Phenanthrene	1.95	1.83		ug/L		94	70 - 130
Propachlor	1.95	1.99		ug/L		102	70 - 130
Pyrene	1.95	1.97		ug/L		101	70 - 130
Simazine	1.95	2.03		ug/L		104	70 - 130
Terbacil	1.95	2.13		ug/L		110	70 - 130
Terbutylazine	1.95	2.10		ug/L		108	70 - 130
Thiobencarb	1.95	1.99		ug/L		102	70 - 130
trans-Nonachlor	1.95	2.07		ug/L		107	70 - 130
Trifluralin	1.95	1.62		ug/L		83	70 - 130
1-Methylnaphthalene	1.95	1.88		ug/L		97	70 - 130
2-Methylnaphthalene	1.95	1.84		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	84		70 - 130
Triphenylphosphate	103		70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111994/24-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
2,4'-DDD	1.95	2.00		ug/L		103	70 - 130	0	20
2,4'-DDE	1.95	1.97		ug/L		101	70 - 130	5	20
2,4'-DDT	1.95	1.69		ug/L		87	70 - 130	7	20
2,4-Dinitrotoluene	1.95	1.99		ug/L		102	70 - 130	4	20
2,6-Dinitrotoluene	1.95	2.00		ug/L		102	70 - 130	6	20
4,4'-DDD	1.95	1.97		ug/L		101	70 - 130	2	20
4,4'-DDE	1.95	1.84		ug/L		95	70 - 130	10	20
4,4'-DDT	1.95	1.68		ug/L		86	70 - 130	8	20
Acenaphthene	1.95	1.98		ug/L		101	70 - 130	2	20
Acenaphthylene	1.95	1.78		ug/L		91	70 - 130	0	20
Acetochlor	1.95	2.10		ug/L		108	70 - 130	2	20
Alachlor	1.95	2.12		ug/L		109	70 - 130	2	20
alpha-BHC	1.95	2.03		ug/L		104	70 - 130	1	20
alpha-Chlordane	1.95	2.13		ug/L		109	70 - 130	0	20
Anthracene	1.95	1.62		ug/L		83	70 - 130	1	20
Atrazine	1.95	1.93		ug/L		99	70 - 130	0	20
Benz(a)anthracene	1.95	1.77		ug/L		91	70 - 130	2	20
Benzo[a]pyrene	1.95	1.71		ug/L		88	70 - 130	8	20
Benzo[b]fluoranthene	1.95	2.03		ug/L		104	70 - 130	10	20
Benzo[g,h,i]perylene	1.95	1.64		ug/L		84	70 - 130	11	20
Benzo[k]fluoranthene	1.95	2.01		ug/L		103	70 - 130	5	20
beta-BHC	1.95	2.06		ug/L		106	70 - 130	0	20
Bis(2-ethylhexyl) phthalate	1.95	1.62		ug/L		83	70 - 130	9	20
Aldrin	1.95	1.56		ug/L		80	70 - 130	2	20
Bromacil	1.95	1.95		ug/L		100	70 - 130	4	20
Butachlor	1.95	1.93		ug/L		99	70 - 130	3	20
Butylbenzylphthalate	1.95	1.95		ug/L		100	70 - 130	2	20
Chlorobenzilate	1.95	1.89	*1	ug/L		97	70 - 130	29	20
Chloroneb	1.95	1.92		ug/L		99	70 - 130	2	20
Chlorothalonil (Draconil, Bravo)	1.95	2.08		ug/L		107	70 - 130	2	20
Chlorpyrifos	1.95	2.12		ug/L		109	70 - 130	0	20
Chrysene	1.95	2.22		ug/L		114	70 - 130	11	20
delta-BHC	1.95	2.06		ug/L		106	70 - 130	1	20
Di(2-ethylhexyl)adipate	1.95	1.37	*1	ug/L		70	70 - 130	23	20
Dibenz(a,h)anthracene	1.95	1.52		ug/L		78	70 - 130	16	20
Diclorvos (DDVP)	1.95	1.83		ug/L		94	70 - 130	2	20
Dieldrin	1.95	1.98		ug/L		102	70 - 130	5	20
Diethylphthalate	1.95	2.05		ug/L		105	70 - 130	2	20
Dimethylphthalate	1.95	1.95		ug/L		100	70 - 130	2	20
Di-n-butyl phthalate	3.89	3.99		ug/L		102	70 - 130	0	20
Di-n-octyl phthalate	1.95	1.46		ug/L		75	70 - 130	16	20
Endosulfan I (Alpha)	1.95	1.99		ug/L		102	70 - 130	2	20
Endosulfan II (Beta)	1.95	1.94		ug/L		100	70 - 130	4	20
Endosulfan sulfate	1.95	1.89		ug/L		97	70 - 130	2	20
Endrin	1.95	2.11		ug/L		109	70 - 130	1	20
Endrin aldehyde	1.95	1.84		ug/L		95	60 - 130	2	20
EPTC	1.95	1.97		ug/L		101	70 - 130	1	20
Fluoranthene	1.95	2.05		ug/L		106	70 - 130	3	20



# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111994/24-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluorene	1.95	1.99		ug/L		102	70 - 130	2	20
gamma-BHC (Lindane)	1.95	1.95		ug/L		100	70 - 130	1	20
gamma-Chlordane	1.95	2.05		ug/L		105	70 - 130	2	20
Heptachlor	1.95	1.99		ug/L		102	70 - 130	0	20
Heptachlor epoxide (isomer B)	1.95	2.00		ug/L		103	70 - 130	1	20
Hexachlorobenzene	1.95	1.96		ug/L		101	70 - 130	1	20
Hexachlorocyclopentadiene	1.95	1.94		ug/L		100	70 - 130	1	20
Indeno[1,2,3-cd]pyrene	1.95	1.41		ug/L		72	70 - 130	8	20
Isophorone	1.95	1.86		ug/L		95	70 - 130	1	20
Malathion	1.95	2.05		ug/L		105	70 - 130	4	20
Methoxychlor	1.95	2.10	*1	ug/L		108	70 - 130	21	20
Metolachlor	1.95	2.19		ug/L		113	70 - 130	2	20
Molinate	1.95	1.97		ug/L		101	70 - 130	0	20
Naphthalene	1.95	1.86		ug/L		96	70 - 130	2	20
Parathion	1.95	2.28		ug/L		117	70 - 130	3	20
Pendimethalin (Penoxaline)	1.95	1.78		ug/L		91	70 - 130	3	20
Phenanthrene	1.95	1.89		ug/L		97	70 - 130	3	20
Propachlor	1.95	2.03		ug/L		104	70 - 130	2	20
Pyrene	1.95	2.02		ug/L		104	70 - 130	2	20
Simazine	1.95	2.02		ug/L		104	70 - 130	1	20
Terbacil	1.95	2.20		ug/L		113	70 - 130	3	20
Terbutylazine	1.95	2.12		ug/L		109	70 - 130	1	20
Thiobencarb	1.95	2.04		ug/L		105	70 - 130	2	20
trans-Nonachlor	1.95	2.00		ug/L		103	70 - 130	4	20
Trifluralin	1.95	1.70		ug/L		87	70 - 130	5	20
1-Methylnaphthalene	1.95	1.93		ug/L		99	70 - 130	3	20
2-Methylnaphthalene	1.95	1.87		ug/L		96	70 - 130	1	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	75		70 - 130
Triphenylphosphate	103		70 - 130

**Lab Sample ID: MRL 380-111994/22-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0975	0.0902	J	ug/L		93	50 - 150
2,4'-DDE	0.0975	0.0995		ug/L		102	50 - 150
2,4'-DDT	0.0975	0.0965	J	ug/L		99	50 - 150
2,4-Dinitrotoluene	0.0975	0.107		ug/L		110	50 - 150
2,6-Dinitrotoluene	0.0975	0.109		ug/L		112	50 - 150
4,4'-DDD	0.0975	0.0972		ug/L		100	50 - 150
4,4'-DDE	0.0975	0.0991		ug/L		102	50 - 150
4,4'-DDT	0.0975	0.0958	J	ug/L		98	50 - 150
Acenaphthene	0.0975	0.0967	J	ug/L		99	50 - 150
Acenaphthylene	0.0975	0.0819	J	ug/L		84	50 - 150

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111994/22-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Acetochlor	0.0975	0.110		ug/L		113	50 - 150
Alachlor	0.0487	0.0510		ug/L		105	50 - 150
alpha-BHC	0.0975	0.105		ug/L		108	50 - 150
alpha-Chlordane	0.0244	<0.028		ug/L		101	50 - 150
Anthracene	0.0195	0.0195		ug/L		100	50 - 150
Atrazine	0.0487	0.0509		ug/L		104	50 - 150
Benz(a)anthracene	0.0487	0.0482	J	ug/L		99	50 - 150
Benzo[a]pyrene	0.0195	0.0155	J	ug/L		80	50 - 150
Benzo[b]fluoranthene	0.0195	0.0169	J	ug/L		87	50 - 150
Benzo[g,h,i]perylene	0.0487	0.0339	J	ug/L		70	50 - 150
Benzo[k]fluoranthene	0.0195	0.0177	J	ug/L		91	50 - 150
beta-BHC	0.0975	0.110		ug/L		113	50 - 150
Bis(2-ethylhexyl) phthalate	0.585	0.514	J	ug/L		88	50 - 150
Aldrin	0.00975	<0.0097		ug/L		87	50 - 150
Bromacil	0.0975	0.0969	J	ug/L		99	50 - 150
Butachlor	0.0487	0.0599		ug/L		123	50 - 150
Butylbenzylphthalate	0.487	0.465	J	ug/L		95	50 - 150
Chlorobenzilate	0.0975	0.0849	J	ug/L		87	50 - 150
Chloroneb	0.0975	0.0834	J	ug/L		86	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0975	0.106		ug/L		109	50 - 150
Chlorpyrifos	0.0487	0.0507		ug/L		104	50 - 150
Chrysene	0.0195	0.0216		ug/L		111	50 - 150
delta-BHC	0.0975	0.109		ug/L		112	50 - 150
Di(2-ethylhexyl)adipate	0.585	0.505	J	ug/L		86	50 - 150
Dibenz(a,h)anthracene	0.0487	0.0342	J	ug/L		70	50 - 150
Diclorvos (DDVP)	0.0487	0.0493		ug/L		101	50 - 150
Dieldrin	0.00975	0.0128		ug/L		132	50 - 150
Diethylphthalate	0.487	0.503		ug/L		103	50 - 150
Dimethylphthalate	0.487	0.488	J	ug/L		100	50 - 150
Di-n-butyl phthalate	0.487	0.475	J	ug/L		97	49 - 243
Di-n-octyl phthalate	0.0975	0.0644	J	ug/L		66	50 - 150
Endosulfan I (Alpha)	0.0975	0.0887	J	ug/L		91	50 - 150
Endosulfan II (Beta)	0.0975	0.111		ug/L		114	50 - 150
Endosulfan sulfate	0.0975	0.0938	J	ug/L		96	50 - 150
Endrin	0.00975	0.0110		ug/L		112	50 - 150
Endrin aldehyde	0.0975	0.0889	J	ug/L		91	50 - 150
EPTC	0.0975	0.0910	J	ug/L		93	50 - 150
Fluoranthene	0.0975	0.0931	J	ug/L		96	50 - 150
Fluorene	0.0487	0.0505		ug/L		104	50 - 150
gamma-BHC (Lindane)	0.00975	0.0141		ug/L		144	50 - 150
gamma-Chlordane	0.0244	0.0241	J	ug/L		99	50 - 150
Heptachlor	0.00975	0.0114		ug/L		117	50 - 150
Heptachlor epoxide (isomer B)	0.00975	0.0140		ug/L		144	50 - 150
Hexachlorobenzene	0.0487	0.0487	J	ug/L		100	50 - 150
Hexachlorocyclopentadiene	0.0487	0.0463	J	ug/L		95	50 - 150
Indeno[1,2,3-cd]pyrene	0.0487	0.0269	J	ug/L		55	50 - 150
Isophorone	0.0975	0.110		ug/L		112	50 - 150
Malathion	0.0975	0.105		ug/L		107	50 - 150
Methoxychlor	0.0487	0.0585		ug/L		120	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111994/22-A**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Metolachlor	0.0487	0.0537		ug/L		110	50 - 150
Molinate	0.0975	0.0959	J	ug/L		98	50 - 150
Naphthalene	0.0975	0.103		ug/L		105	50 - 150
Parathion	0.0975	0.101		ug/L		104	50 - 150
Pendimethalin (Penoxaline)	0.0975	0.0791	J	ug/L		81	50 - 150
Phenanthrene	0.0390	0.0418		ug/L		107	50 - 150
Propachlor	0.0487	0.0528		ug/L		108	50 - 150
Pyrene	0.0487	0.0454	J	ug/L		93	50 - 150
Simazine	0.0487	0.0461	J	ug/L		95	50 - 150
Terbacil	0.0975	0.104		ug/L		107	50 - 150
Terbutylazine	0.0975	0.0992		ug/L		102	50 - 150
Thiobencarb	0.0975	0.0931	J	ug/L		95	50 - 150
trans-Nonachlor	0.0244	<0.025		ug/L		90	50 - 150
Trifluralin	0.0975	0.0873	J	ug/L		90	50 - 150
1-Methylnaphthalene	0.0975	0.102		ug/L		105	50 - 150
2-Methylnaphthalene	0.0975	0.0960	J	ug/L		98	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	73		70 - 130
Triphenylphosphate	99		70 - 130

**Lab Sample ID: 380-115709-B-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	<0.097		1.96	2.08		ug/L		106	70 - 130	1	20
2,4'-DDE	<0.097		1.96	2.11		ug/L		108	70 - 130	2	20
2,4'-DDT	<0.097		1.96	1.94		ug/L		99	70 - 130	3	20
2,4-Dinitrotoluene	<0.097		1.96	2.14		ug/L		109	70 - 130	0	20
2,6-Dinitrotoluene	<0.097		1.96	2.07		ug/L		106	70 - 130	1	20
4,4'-DDD	<0.097		1.96	2.07		ug/L		106	70 - 130	1	20
4,4'-DDE	<0.097		1.96	2.06		ug/L		105	70 - 130	3	20
4,4'-DDT	<0.097		1.96	1.98		ug/L		101	70 - 130	2	20
Acenaphthene	<0.097		1.96	2.00		ug/L		102	70 - 130	0	20
Acenaphthylene	<0.097		1.96	1.86		ug/L		95	70 - 130	1	20
Acetochlor	<0.097		1.96	2.15		ug/L		110	70 - 130	1	20
Alachlor	<0.049		1.96	2.11		ug/L		108	70 - 130	1	20
alpha-BHC	<0.097		1.96	2.06		ug/L		105	70 - 130	1	20
alpha-Chlordane	<0.049		1.96	2.19		ug/L		112	70 - 130	2	20
Anthracene	<0.019	F1	1.96	1.24	F1	ug/L		63	70 - 130	9	20
Atrazine	<0.049		1.96	1.97		ug/L		101	70 - 130	2	20
Benz(a)anthracene	<0.049		1.96	1.81		ug/L		92	70 - 130	1	20
Benzo[a]pyrene	<0.019		1.96	1.57		ug/L		80	70 - 130	4	20
Benzo[b]fluoranthene	<0.019		1.96	1.96		ug/L		100	70 - 130	0	20
Benzo[g,h,i]perylene	<0.049		1.96	1.93		ug/L		99	70 - 130	1	20
Benzo[k]fluoranthene	<0.019		1.96	1.98		ug/L		101	70 - 130	1	20

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115709-B-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
beta-BHC	<0.097		1.96	2.12		ug/L		108	70 - 130	0	20
Bis(2-ethylhexyl) phthalate	<0.58		1.96	1.67		ug/L		85	70 - 130	4	20
Aldrin	<0.0097		1.96	1.65		ug/L		84	70 - 130	3	20
Bromacil	<0.097		1.96	1.99		ug/L		102	70 - 130	3	20
Butachlor	<0.049		1.96	1.96		ug/L		100	70 - 130	0	20
Butylbenzylphthalate	<0.49		1.96	1.97		ug/L		100	70 - 130	0	20
Chlorobenzilate	<0.097	*1	1.96	1.90		ug/L		97	70 - 130	2	20
Chloroneb	<0.097		1.96	1.96		ug/L		100	70 - 130	1	20
Chlorothalonil (Draconil, Bravo)	<0.097		1.96	2.08		ug/L		106	70 - 130	2	20
Chlorpyrifos	<0.049		1.96	2.17		ug/L		111	70 - 130	0	20
Chrysene	<0.019		1.96	2.04		ug/L		104	70 - 130	1	20
delta-BHC	<0.097		1.96	2.07		ug/L		106	70 - 130	2	20
Di(2-ethylhexyl)adipate	<0.58	*1	1.96	1.69		ug/L		86	70 - 130	5	20
Dibenz(a,h)anthracene	<0.049		1.96	1.86		ug/L		95	70 - 130	1	20
Diclorvos (DDVP)	<0.049		1.96	1.89		ug/L		96	70 - 130	1	20
Dieldrin	<0.0097		1.96	2.02		ug/L		103	70 - 130	0	20
Diethylphthalate	<0.49		1.96	2.07		ug/L		106	70 - 130	0	20
Dimethylphthalate	<0.49		1.96	1.97		ug/L		101	70 - 130	0	20
Di-n-butyl phthalate	<0.97		3.92	4.03		ug/L		103	70 - 130	1	20
Di-n-octyl phthalate	<0.097		1.96	1.55		ug/L		79	70 - 130	10	20
Endosulfan I (Alpha)	<0.097		1.96	2.04		ug/L		104	70 - 130	1	20
Endosulfan II (Beta)	<0.097		1.96	2.00		ug/L		102	70 - 130	1	20
Endosulfan sulfate	<0.097		1.96	1.99		ug/L		101	70 - 130	1	20
Endrin	<0.0097		1.96	2.15		ug/L		110	70 - 130	0	20
Endrin aldehyde	<0.097		1.96	1.75		ug/L		89	60 - 130	3	20
EPTC	<0.097		1.96	1.98		ug/L		101	70 - 130	1	20
Fluoranthene	<0.097		1.96	2.05		ug/L		105	70 - 130	1	20
Fluorene	<0.049		1.96	2.03		ug/L		103	70 - 130	1	20
gamma-BHC (Lindane)	<0.0097		1.96	2.00		ug/L		102	70 - 130	0	20
gamma-Chlordane	<0.049		1.96	2.18		ug/L		111	70 - 130	2	20
Heptachlor	<0.0097		1.96	2.01		ug/L		102	70 - 130	1	20
Heptachlor epoxide (isomer B)	<0.0097		1.96	2.04		ug/L		104	70 - 130	2	20
Hexachlorobenzene	<0.049		1.96	2.04		ug/L		104	70 - 130	0	20
Hexachlorocyclopentadiene	<0.049		1.96	2.07		ug/L		106	70 - 130	1	20
Indeno[1,2,3-cd]pyrene	<0.049		1.96	1.71		ug/L		87	70 - 130	2	20
Isophorone	<0.097		1.96	1.87		ug/L		96	70 - 130	1	20
Malathion	<0.097		1.96	2.06		ug/L		105	70 - 130	1	20
Methoxychlor	<0.049	*1	1.96	1.88		ug/L		96	70 - 130	0	20
Metolachlor	<0.049		1.96	2.21		ug/L		113	70 - 130	1	20
Molinate	<0.097		1.96	1.99		ug/L		102	70 - 130	0	20
Naphthalene	<0.097		1.96	1.87		ug/L		95	70 - 130	1	20
Parathion	<0.097		1.96	2.42		ug/L		123	70 - 130	1	20
Pendimethalin (Penoxaline)	<0.097		1.96	1.96		ug/L		100	70 - 130	2	20
Phenanthrene	<0.039		1.96	1.88		ug/L		96	70 - 130	0	20
Propachlor	<0.049		1.96	2.02		ug/L		103	70 - 130	1	20
Pyrene	<0.049		1.96	2.01		ug/L		103	70 - 130	0	20
Simazine	<0.049		1.96	2.10		ug/L		107	70 - 130	0	20
Terbacil	<0.097		1.96	2.28		ug/L		117	70 - 130	2	20
Terbutylazine	<0.097		1.96	2.17		ug/L		111	70 - 130	1	20

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115709-B-1-A MSD**

**Client Sample ID: Matrix Spike Duplicate**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 112094**

**Prep Batch: 111994**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thiobencarb	<0.097		1.96	2.01		ug/L		103	70 - 130	1	20
trans-Nonachlor	<0.049		1.96	2.16		ug/L		110	70 - 130	3	20
Trifluralin	<0.097		1.96	1.81		ug/L		93	70 - 130	1	20
1-Methylnaphthalene	<0.097		1.96	1.93		ug/L		98	70 - 130	0	20
2-Methylnaphthalene	<0.097		1.96	1.89		ug/L		96	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	89		70 - 130
Triphenylphosphate	103		70 - 130

**Lab Sample ID: 380-115709-C-1-A MS**

**Client Sample ID: Matrix Spike**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 112094**

**Prep Batch: 111994**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	<0.097		1.96	2.11		ug/L		107	70 - 130
2,4'-DDE	<0.097		1.96	2.14		ug/L		109	70 - 130
2,4'-DDT	<0.097		1.96	2.00		ug/L		102	70 - 130
2,4-Dinitrotoluene	<0.097		1.96	2.14		ug/L		109	70 - 130
2,6-Dinitrotoluene	<0.097		1.96	2.09		ug/L		106	70 - 130
4,4'-DDD	<0.097		1.96	2.08		ug/L		106	70 - 130
4,4'-DDE	<0.097		1.96	2.12		ug/L		108	70 - 130
4,4'-DDT	<0.097		1.96	2.02		ug/L		103	70 - 130
Acenaphthene	<0.097		1.96	2.00		ug/L		102	70 - 130
Acenaphthylene	<0.097		1.96	1.83		ug/L		93	70 - 130
Acetochlor	<0.097		1.96	2.13		ug/L		109	70 - 130
Alachlor	<0.049		1.96	2.14		ug/L		109	70 - 130
alpha-BHC	<0.097		1.96	2.04		ug/L		104	70 - 130
alpha-Chlordane	<0.049		1.96	2.23		ug/L		114	70 - 130
Anthracene	<0.019	F1	1.96	1.13	F1	ug/L		58	70 - 130
Atrazine	<0.049		1.96	2.01		ug/L		103	70 - 130
Benz(a)anthracene	<0.049		1.96	1.82		ug/L		93	70 - 130
Benzo[a]pyrene	<0.019		1.96	1.52		ug/L		77	70 - 130
Benzo[b]fluoranthene	<0.019		1.96	1.95		ug/L		99	70 - 130
Benzo[g,h,i]perylene	<0.049		1.96	1.92		ug/L		98	70 - 130
Benzo[k]fluoranthene	<0.019		1.96	2.00		ug/L		102	70 - 130
beta-BHC	<0.097		1.96	2.12		ug/L		108	70 - 130
Bis(2-ethylhexyl) phthalate	<0.58		1.96	1.74		ug/L		88	70 - 130
Aldrin	<0.0097		1.96	1.61		ug/L		82	70 - 130
Bromacil	<0.097		1.96	2.05		ug/L		104	70 - 130
Butachlor	<0.049		1.96	1.96		ug/L		100	70 - 130
Butylbenzylphthalate	<0.49		1.96	1.96		ug/L		100	70 - 130
Chlorobenzilate	<0.097	*1	1.96	1.85		ug/L		95	70 - 130
Chloroneb	<0.097		1.96	1.97		ug/L		100	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.097		1.96	2.12		ug/L		108	70 - 130
Chlorpyrifos	<0.049		1.96	2.16		ug/L		110	70 - 130
Chrysene	<0.019		1.96	2.03		ug/L		104	70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115709-C-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 112094**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 111994**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
delta-BHC	<0.097		1.96	2.12		ug/L		108	70 - 130
Di(2-ethylhexyl)adipate	<0.58	*1	1.96	1.78		ug/L		91	70 - 130
Dibenz(a,h)anthracene	<0.049		1.96	1.88		ug/L		96	70 - 130
Diclorvos (DDVP)	<0.049		1.96	1.88		ug/L		96	70 - 130
Dieldrin	<0.0097		1.96	2.01		ug/L		103	70 - 130
Diethylphthalate	<0.49		1.96	2.06		ug/L		105	70 - 130
Dimethylphthalate	<0.49		1.96	1.97		ug/L		100	70 - 130
Di-n-butyl phthalate	<0.97		3.92	4.01		ug/L		102	70 - 130
Di-n-octyl phthalate	<0.097		1.96	1.70		ug/L		87	70 - 130
Endosulfan I (Alpha)	<0.097		1.96	2.01		ug/L		103	70 - 130
Endosulfan II (Beta)	<0.097		1.96	1.98		ug/L		101	70 - 130
Endosulfan sulfate	<0.097		1.96	2.01		ug/L		102	70 - 130
Endrin	<0.0097		1.96	2.14		ug/L		109	70 - 130
Endrin aldehyde	<0.097		1.96	1.80		ug/L		92	60 - 130
EPTC	<0.097		1.96	1.99		ug/L		101	70 - 130
Fluoranthene	<0.097		1.96	2.08		ug/L		106	70 - 130
Fluorene	<0.049		1.96	2.02		ug/L		103	70 - 130
gamma-BHC (Lindane)	<0.0097		1.96	2.01		ug/L		103	70 - 130
gamma-Chlordane	<0.049		1.96	2.22		ug/L		113	70 - 130
Heptachlor	<0.0097		1.96	2.03		ug/L		104	70 - 130
Heptachlor epoxide (isomer B)	<0.0097		1.96	2.08		ug/L		106	70 - 130
Hexachlorobenzene	<0.049		1.96	2.04		ug/L		104	70 - 130
Hexachlorocyclopentadiene	<0.049		1.96	2.05		ug/L		105	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.96	1.74		ug/L		89	70 - 130
Isophorone	<0.097		1.96	1.85		ug/L		95	70 - 130
Malathion	<0.097		1.96	2.09		ug/L		106	70 - 130
Methoxychlor	<0.049	*1	1.96	1.88		ug/L		96	70 - 130
Metolachlor	<0.049		1.96	2.23		ug/L		114	70 - 130
Molinate	<0.097		1.96	2.00		ug/L		102	70 - 130
Naphthalene	<0.097		1.96	1.85		ug/L		95	70 - 130
Parathion	<0.097		1.96	2.45		ug/L		125	70 - 130
Pendimethalin (Penoxaline)	<0.097		1.96	2.01		ug/L		102	70 - 130
Phenanthrene	<0.039		1.96	1.88		ug/L		96	70 - 130
Propachlor	<0.049		1.96	2.04		ug/L		104	70 - 130
Pyrene	<0.049		1.96	2.02		ug/L		103	70 - 130
Simazine	<0.049		1.96	2.10		ug/L		107	70 - 130
Terbacil	<0.097		1.96	2.25		ug/L		115	70 - 130
Terbutylazine	<0.097		1.96	2.19		ug/L		112	70 - 130
Thiobencarb	<0.097		1.96	2.04		ug/L		104	70 - 130
trans-Nonachlor	<0.049		1.96	2.23		ug/L		114	70 - 130
Trifluralin	<0.097		1.96	1.83		ug/L		93	70 - 130
1-Methylnaphthalene	<0.097		1.96	1.92		ug/L		98	70 - 130
2-Methylnaphthalene	<0.097		1.96	1.88		ug/L		96	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	91		70 - 130
Triphenylphosphate	105		70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 570-487444/1-A**  
**Matrix: Water**  
**Analysis Batch: 491128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

<i>Tentatively Identified Compound</i>	<i>MB</i>	<i>MB</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>Qualifier</i>	<i>ug/L</i>			<i>N/A</i>	<i>10/03/24 09:59</i>	<i>10/14/24 11:03</i>	<i>1</i>
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4,6-Tribromophenol (Surr)	79		33 - 139				10/03/24 09:59	10/14/24 11:03	1
2-Fluorobiphenyl (Surr)	75		33 - 126				10/03/24 09:59	10/14/24 11:03	1
2-Fluorophenol (Surr)	60		12 - 120				10/03/24 09:59	10/14/24 11:03	1
Nitrobenzene-d5 (Surr)	83		36 - 120				10/03/24 09:59	10/14/24 11:03	1
Phenol-d6 (Surr)	32		10 - 120				10/03/24 09:59	10/14/24 11:03	1
p-Terphenyl-d14 (Surr)	84		47 - 131				10/03/24 09:59	10/14/24 11:03	1

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

**Lab Sample ID: MB 570-487444/1-A**  
**Matrix: Water**  
**Analysis Batch: 487832**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

<b>Analyte</b>	<b>MB</b>	<b>MB</b>	<b>RL</b>	<b>Unit</b>	<b>D</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<b>Analyte</b>	<b>Result</b>	<b>Qualifier</b>						
1-Methylnaphthalene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
2,4,5-Trichlorophenol	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2,4,6-Trichlorophenol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2,4-Dichlorophenol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2,4-Dinitrophenol	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2,6-Dichlorophenol	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2-Chloronaphthalene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
2-Chlorophenol	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
2-Methylnaphthalene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
2-Methylphenol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2-Nitroaniline	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
2-Nitrophenol	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
3/4-Methylphenol	<2.0		2.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
3-Nitroaniline	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
4,6-Dinitro-2-methylphenol	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
4-Bromophenyl phenyl ether	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
4-Chloro-3-methylphenol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
4-Chloroaniline	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
4-Chlorophenyl phenyl ether	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
4-Nitroaniline	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
4-Nitrophenol	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
Acenaphthene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Acenaphthylene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Aniline	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Anthracene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzidine	<5.0		5.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzo[a]anthracene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzo[a]pyrene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzo[b]fluoranthene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzo[g,h,i]perylene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzo[k]fluoranthene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 570-487444/1-A**  
**Matrix: Water**  
**Analysis Batch: 487832**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	<10		10	ug/L		10/03/24 09:59	10/04/24 11:28	1
Benzyl alcohol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
Bis(2-chloroethoxy)methane	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Bis(2-chloroethyl)ether	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
bis (2-Chloroisopropyl) ether	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Chrysene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Dibenz(a,h)anthracene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Dibenzofuran	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Fluoranthene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Fluorene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Hexachloroethane	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Indeno[1,2,3-cd]pyrene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Naphthalene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Nitrobenzene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
N-Nitrosodi-n-propylamine	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
N-Nitrosodiphenylamine	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Pentachlorophenol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
Phenanthrene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1
Phenol	<1.0		1.0	ug/L		10/03/24 09:59	10/04/24 11:28	1
Pyrene	<0.20		0.20	ug/L		10/03/24 09:59	10/04/24 11:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	84		28 - 127	10/03/24 09:59	10/04/24 11:28	1
2-Fluorobiphenyl (Surr)	48		31 - 120	10/03/24 09:59	10/04/24 11:28	1
2-Fluorophenol (Surr)	48		17 - 120	10/03/24 09:59	10/04/24 11:28	1
Nitrobenzene-d5 (Surr)	52		27 - 120	10/03/24 09:59	10/04/24 11:28	1
Phenol-d6 (Surr)	32		10 - 120	10/03/24 09:59	10/04/24 11:28	1
p-Terphenyl-d14 (Surr)	52		45 - 120	10/03/24 09:59	10/04/24 11:28	1

**Lab Sample ID: LCS 570-487444/2-A**  
**Matrix: Water**  
**Analysis Batch: 487832**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	40.0	27.3		ug/L		68	47 - 120
2,4,5-Trichlorophenol	40.0	40.2		ug/L		101	57 - 120
2,4,6-Trichlorophenol	40.0	39.5		ug/L		99	52 - 129
2,4-Dichlorophenol	40.0	29.8		ug/L		75	53 - 122
2,4-Dinitrophenol	40.0	39.7		ug/L		99	1 - 173
2,6-Dichlorophenol	40.0	29.2		ug/L		73	50 - 120
2-Chloronaphthalene	40.0	35.3		ug/L		88	65 - 120
2-Chlorophenol	40.0	37.7		ug/L		94	36 - 120
2-Methylnaphthalene	40.0	27.0		ug/L		67	43 - 120
2-Methylphenol	40.0	39.3		ug/L		98	46 - 120
2-Nitroaniline	20.0	17.7		ug/L		89	51 - 125
2-Nitrophenol	40.0	27.3		ug/L		68	45 - 167
3/4-Methylphenol	80.0	75.1		ug/L		94	29 - 120
3-Nitroaniline	20.0	17.5		ug/L		88	62 - 129

Eurofins Eaton Analytical Pomona



# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 570-487444/2-A**  
**Matrix: Water**  
**Analysis Batch: 487832**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,6-Dinitro-2-methylphenol	40.0	44.2		ug/L		111	53 - 130
4-Bromophenyl phenyl ether	40.0	35.9		ug/L		90	65 - 120
4-Chloro-3-methylphenol	40.0	33.5		ug/L		84	41 - 128
4-Chloroaniline	20.0	11.6		ug/L		58	51 - 120
4-Chlorophenyl phenyl ether	40.0	37.7		ug/L		94	38 - 145
4-Nitroaniline	20.0	17.9		ug/L		90	64 - 129
4-Nitrophenol	40.0	24.0		ug/L		60	13 - 129
Acenaphthene	40.0	34.7		ug/L		87	60 - 132
Acenaphthylene	40.0	36.0		ug/L		90	54 - 126
Aniline	20.0	13.5		ug/L		67	52 - 121
Anthracene	40.0	38.9		ug/L		97	43 - 120
Benzidine	20.0	2.75	J *	ug/L		14	20 - 164
Benzo[a]anthracene	40.0	41.4		ug/L		104	42 - 133
Benzo[a]pyrene	40.0	44.5		ug/L		111	32 - 148
Benzo[b]fluoranthene	40.0	42.9		ug/L		107	42 - 140
Benzo[g,h,i]perylene	40.0	40.7		ug/L		102	1 - 195
Benzo[k]fluoranthene	40.0	41.7		ug/L		104	25 - 146
Benzoic acid	40.0	12.6		ug/L		31	20 - 120
Benzyl alcohol	40.0	39.7		ug/L		99	44 - 122
Bis(2-chloroethoxy)methane	40.0	28.1		ug/L		70	49 - 165
Bis(2-chloroethyl)ether	40.0	38.8		ug/L		97	43 - 126
bis (2-Chloroisopropyl) ether	40.0	39.1		ug/L		98	63 - 139
Chrysene	40.0	39.8		ug/L		99	44 - 140
Dibenz(a,h)anthracene	40.0	41.0		ug/L		102	1 - 200
Dibenzofuran	40.0	36.9		ug/L		92	48 - 120
Fluoranthene	40.0	41.2		ug/L		103	43 - 121
Fluorene	40.0	37.6		ug/L		94	70 - 120
Hexachloroethane	40.0	28.6		ug/L		72	55 - 120
Indeno[1,2,3-cd]pyrene	40.0	41.3		ug/L		103	1 - 151
Naphthalene	40.0	23.6		ug/L		59	36 - 120
Nitrobenzene	40.0	25.6		ug/L		64	54 - 158
N-Nitrosodi-n-propylamine	20.0	16.4		ug/L		82	14 - 198
N-Nitrosodiphenylamine	20.0	19.9		ug/L		100	65 - 133
Pentachlorophenol	40.0	47.1		ug/L		118	38 - 152
Phenanthrene	40.0	38.7		ug/L		97	65 - 120
Phenol	40.0	20.1		ug/L		50	17 - 120
Pyrene	40.0	39.1		ug/L		98	70 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol (Surr)	86		28 - 127
2-Fluorobiphenyl (Surr)	45		31 - 120
2-Fluorophenol (Surr)	51		17 - 120
Nitrobenzene-d5 (Surr)	34		27 - 120
Phenol-d6 (Surr)	39		10 - 120
p-Terphenyl-d14 (Surr)	59		45 - 120

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 570-487444/3-A**  
**Matrix: Water**  
**Analysis Batch: 487832**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
1-Methylnaphthalene	40.0	26.0		ug/L		65	47 - 120	5	20
2,4,5-Trichlorophenol	40.0	40.5		ug/L		101	57 - 120	1	20
2,4,6-Trichlorophenol	40.0	40.3		ug/L		101	52 - 129	2	35
2,4-Dichlorophenol	40.0	29.1		ug/L		73	53 - 122	2	30
2,4-Dinitrophenol	40.0	45.4		ug/L		114	1 - 173	13	79
2,6-Dichlorophenol	40.0	28.5		ug/L		71	50 - 120	2	20
2-Chloronaphthalene	40.0	36.0		ug/L		90	65 - 120	2	15
2-Chlorophenol	40.0	38.1		ug/L		95	36 - 120	1	37
2-Methylnaphthalene	40.0	26.0		ug/L		65	43 - 120	4	20
2-Methylphenol	40.0	37.6		ug/L		94	46 - 120	4	20
2-Nitroaniline	20.0	18.2		ug/L		91	51 - 125	2	20
2-Nitrophenol	40.0	27.0		ug/L		68	45 - 167	1	33
3/4-Methylphenol	80.0	72.1		ug/L		90	29 - 120	4	20
3-Nitroaniline	20.0	19.1		ug/L		95	62 - 129	9	20
4,6-Dinitro-2-methylphenol	40.0	46.2		ug/L		116	53 - 130	4	122
4-Bromophenyl phenyl ether	40.0	36.0		ug/L		90	65 - 120	0	26
4-Chloro-3-methylphenol	40.0	33.6		ug/L		84	41 - 128	0	44
4-Chloroaniline	20.0	11.6		ug/L		58	51 - 120	0	20
4-Chlorophenyl phenyl ether	40.0	38.5		ug/L		96	38 - 145	2	36
4-Nitroaniline	20.0	19.7		ug/L		99	64 - 129	9	20
4-Nitrophenol	40.0	24.6		ug/L		61	13 - 129	3	79
Acenaphthene	40.0	36.0		ug/L		90	60 - 132	4	29
Acenaphthylene	40.0	37.0		ug/L		93	54 - 126	3	45
Aniline	20.0	14.6		ug/L		73	52 - 121	8	21
Anthracene	40.0	39.9		ug/L		100	43 - 120	2	40
Benzidine	20.0	6.71	*1	ug/L		34	20 - 164	84	30
Benzo[a]anthracene	40.0	41.7		ug/L		104	42 - 133	1	32
Benzo[a]pyrene	40.0	45.4		ug/L		113	32 - 148	2	43
Benzo[b]fluoranthene	40.0	42.6		ug/L		107	42 - 140	1	43
Benzo[g,h,i]perylene	40.0	42.1		ug/L		105	1 - 195	3	61
Benzo[k]fluoranthene	40.0	42.6		ug/L		107	25 - 146	2	38
Benzoic acid	40.0	14.5		ug/L		36	20 - 120	14	30
Benzyl alcohol	40.0	37.7		ug/L		94	44 - 122	5	20
Bis(2-chloroethoxy)methane	40.0	27.2		ug/L		68	49 - 165	3	32
Bis(2-chloroethyl)ether	40.0	38.8		ug/L		97	43 - 126	0	65
bis (2-Chloroisopropyl) ether	40.0	38.1		ug/L		95	63 - 139	3	46
Chrysene	40.0	39.6		ug/L		99	44 - 140	0	53
Dibenz(a,h)anthracene	40.0	42.4		ug/L		106	1 - 200	4	75
Dibenzofuran	40.0	38.5		ug/L		96	48 - 120	4	20
Fluoranthene	40.0	41.9		ug/L		105	43 - 121	2	40
Fluorene	40.0	38.4		ug/L		96	70 - 120	2	23
Hexachloroethane	40.0	29.7		ug/L		74	55 - 120	4	32
Indeno[1,2,3-cd]pyrene	40.0	42.5		ug/L		106	1 - 151	3	60
Naphthalene	40.0	23.4		ug/L		58	36 - 120	1	39
Nitrobenzene	40.0	25.4		ug/L		63	54 - 158	1	37
N-Nitrosodi-n-propylamine	20.0	16.3		ug/L		82	14 - 198	0	52
N-Nitrosodiphenylamine	20.0	19.9		ug/L		100	65 - 133	0	20
Pentachlorophenol	40.0	48.4		ug/L		121	38 - 152	3	52

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 570-487444/3-A**  
**Matrix: Water**  
**Analysis Batch: 487832**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Phenanthrene	40.0	39.2		ug/L		98	65 - 120	1	24
Phenol	40.0	19.6		ug/L		49	17 - 120	3	39
Pyrene	40.0	38.7		ug/L		97	70 - 120	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2,4,6-Tribromophenol (Surr)	85		28 - 127
2-Fluorobiphenyl (Surr)	44		31 - 120
2-Fluorophenol (Surr)	50		17 - 120
Nitrobenzene-d5 (Surr)	33		27 - 120
Phenol-d6 (Surr)	37		10 - 120
p-Terphenyl-d14 (Surr)	57		45 - 120

**Lab Sample ID: 380-115753-A-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 488403**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.19		38.2	20.7		ug/L		54	36 - 120
2,4,5-Trichlorophenol	<4.8		38.2	31.6		ug/L		83	21 - 145
2,4,6-Trichlorophenol	<0.96		38.2	30.0		ug/L		78	37 - 144
2,4-Dichlorophenol	<0.96		38.2	23.5		ug/L		62	39 - 135
2,4-Dinitrophenol	<4.8		38.2	32.6		ug/L		85	1 - 191
2,6-Dichlorophenol	<4.8		38.2	22.9		ug/L		60	24 - 134
2-Chloronaphthalene	<0.19		38.2	28.2		ug/L		74	60 - 120
2-Chlorophenol	<0.19		38.2	30.1		ug/L		79	23 - 143
2-Methylnaphthalene	<0.19		38.2	20.5		ug/L		54	32 - 124
2-Methylphenol	<0.96		38.2	27.7		ug/L		72	10 - 135
2-Nitroaniline	<4.8		19.1	13.2		ug/L		69	10 - 147
2-Nitrophenol	<4.8		38.2	21.4		ug/L		56	29 - 182
3/4-Methylphenol	<1.9		76.4	52.0		ug/L		68	10 - 118
3-Nitroaniline	<4.8		19.1	15.5		ug/L		81	10 - 153
4,6-Dinitro-2-methylphenol	<4.8		38.2	30.2		ug/L		79	1 - 181
4-Bromophenyl phenyl ether	<0.19		38.2	27.5		ug/L		72	53 - 127
4-Chloro-3-methylphenol	<0.96		38.2	25.9		ug/L		68	22 - 147
4-Chloroaniline	<4.8		19.1	11.6		ug/L		61	10 - 131
4-Chlorophenyl phenyl ether	<0.19		38.2	28.5		ug/L		75	25 - 158
4-Nitroaniline	<4.8		19.1	13.8		ug/L		72	10 - 180
4-Nitrophenol	<4.8		38.2	17.7		ug/L		46	1 - 132
Acenaphthene	<0.19		38.2	27.6		ug/L		72	47 - 145
Acenaphthylene	<0.19		38.2	28.2		ug/L		74	33 - 145
Aniline	<0.19		19.1	11.4		ug/L		60	10 - 113
Anthracene	<0.19		38.2	30.8		ug/L		81	27 - 133
Benzidine	<4.8	F1 *1 *-	19.1	<4.8	F1	ug/L		7	10 - 57
Benzo[a]anthracene	<0.19		38.2	32.6		ug/L		85	33 - 143
Benzo[a]pyrene	<0.19		38.2	33.8		ug/L		89	17 - 163
Benzo[b]fluoranthene	<0.19		38.2	32.8		ug/L		86	24 - 159
Benzo[g,h,i]perylene	<0.19		38.2	33.3		ug/L		87	1 - 219
Benzo[k]fluoranthene	<0.19		38.2	32.7		ug/L		86	11 - 162

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115753-A-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 488403**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Benzoic acid	<9.6		38.2	12.1		ug/L		32		10 - 97
Benzyl alcohol	<0.96		38.2	30.2		ug/L		79		10 - 122
Bis(2-chloroethoxy)methane	<0.19		38.2	21.6		ug/L		56		33 - 184
Bis(2-chloroethyl)ether	<0.19		38.2	27.3		ug/L		71		12 - 158
bis (2-Chloroisopropyl) ether	<0.19		38.2	27.7		ug/L		73		36 - 166
Chrysene	<0.19		38.2	30.9		ug/L		81		17 - 168
Dibenz(a,h)anthracene	<0.19		38.2	33.5		ug/L		88		1 - 227
Dibenzofuran	<0.19		38.2	28.8		ug/L		75		42 - 111
Fluoranthene	<0.19		38.2	32.4		ug/L		85		26 - 137
Fluorene	<0.19		38.2	28.5		ug/L		75		59 - 121
Hexachloroethane	<0.19		38.2	22.8		ug/L		60		40 - 120
Indeno[1,2,3-cd]pyrene	<0.19		38.2	33.0		ug/L		86		1 - 171
Naphthalene	<0.19		38.2	19.8		ug/L		52		21 - 133
Nitrobenzene	<0.19		38.2	20.9		ug/L		55		35 - 180
N-Nitrosodi-n-propylamine	<0.19		19.1	10.9		ug/L		57		1 - 230
N-Nitrosodiphenylamine	<0.19		19.1	14.3		ug/L		75		10 - 179
Pentachlorophenol	<0.96		38.2	28.7		ug/L		75		14 - 176
Phenanthrene	<0.19		38.2	30.5		ug/L		80		54 - 120
Phenol	<0.96		38.2	13.8		ug/L		36		5 - 120
Pyrene	<0.19		38.2	31.8		ug/L		83		52 - 120

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	63		28 - 127
2-Fluorobiphenyl (Surr)	37		31 - 120
2-Fluorophenol (Surr)	42		17 - 120
Nitrobenzene-d5 (Surr)	29		27 - 120
Phenol-d6 (Surr)	27		10 - 120
p-Terphenyl-d14 (Surr)	48		45 - 120

**Lab Sample ID: 380-115753-A-3-B MSD**  
**Matrix: Water**  
**Analysis Batch: 488403**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
1-Methylnaphthalene	<0.19		38.1	22.2		ug/L		58		36 - 120	7	30
2,4,5-Trichlorophenol	<4.8		38.1	32.8		ug/L		86		21 - 145	4	30
2,4,6-Trichlorophenol	<0.96		38.1	32.3		ug/L		85		37 - 144	7	58
2,4-Dichlorophenol	<0.96		38.1	25.1		ug/L		66		39 - 135	6	50
2,4-Dinitrophenol	<4.8		38.1	35.7		ug/L		94		1 - 191	9	132
2,6-Dichlorophenol	<4.8		38.1	24.5		ug/L		64		24 - 134	7	30
2-Chloronaphthalene	<0.19		38.1	30.4		ug/L		80		60 - 120	8	24
2-Chlorophenol	<0.19		38.1	32.4		ug/L		85		23 - 143	7	61
2-Methylnaphthalene	<0.19		38.1	22.1		ug/L		58		32 - 124	7	30
2-Methylphenol	<0.96		38.1	29.5		ug/L		77		10 - 135	6	30
2-Nitroaniline	<4.8		19.1	14.4		ug/L		75		10 - 147	9	30
2-Nitrophenol	<4.8		38.1	23.0		ug/L		60		29 - 182	8	55
3/4-Methylphenol	<1.9		76.3	55.3		ug/L		73		10 - 118	6	30
3-Nitroaniline	<4.8		19.1	15.0		ug/L		79		10 - 153	3	30

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115753-A-3-B MSD**  
**Matrix: Water**  
**Analysis Batch: 488403**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 487444**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
4,6-Dinitro-2-methylphenol	<4.8		38.1	33.4		ug/L		88	1 - 181	10	203
4-Bromophenyl phenyl ether	<0.19		38.1	29.3		ug/L		77	53 - 127	6	43
4-Chloro-3-methylphenol	<0.96		38.1	26.5		ug/L		69	22 - 147	2	73
4-Chloroaniline	<4.8		19.1	10.2		ug/L		53	10 - 131	13	30
4-Chlorophenyl phenyl ether	<0.19		38.1	30.4		ug/L		80	25 - 158	6	61
4-Nitroaniline	<4.8		19.1	14.5		ug/L		76	10 - 180	5	30
4-Nitrophenol	<4.8		38.1	18.2		ug/L		48	1 - 132	3	131
Acenaphthene	<0.19		38.1	29.1		ug/L		76	47 - 145	6	48
Acenaphthylene	<0.19		38.1	29.8		ug/L		78	33 - 145	6	74
Aniline	<0.19		19.1	9.63		ug/L		51	10 - 113	17	30
Anthracene	<0.19		38.1	32.3		ug/L		85	27 - 133	5	66
Benzidine	<4.8	F1 *1 *-	19.1	<4.8	F1	ug/L		0	10 - 57	NC	30
Benzo[a]anthracene	<0.19		38.1	34.1		ug/L		89	33 - 143	4	53
Benzo[a]pyrene	<0.19		38.1	35.3		ug/L		92	17 - 163	4	72
Benzo[b]fluoranthene	<0.19		38.1	33.5		ug/L		88	24 - 159	2	71
Benzo[g,h,i]perylene	<0.19		38.1	33.8		ug/L		89	1 - 219	1	97
Benzo[k]fluoranthene	<0.19		38.1	34.1		ug/L		89	11 - 162	4	63
Benzoic acid	<9.6		38.1	12.8		ug/L		34	10 - 97	5	30
Benzyl alcohol	<0.96		38.1	30.6		ug/L		80	10 - 122	1	30
Bis(2-chloroethoxy)methane	<0.19		38.1	23.0		ug/L		60	33 - 184	6	54
Bis(2-chloroethyl)ether	<0.19		38.1	30.0		ug/L		79	12 - 158	9	108
bis (2-Chloroisopropyl) ether	<0.19		38.1	30.5		ug/L		80	36 - 166	9	76
Chrysene	<0.19		38.1	32.1		ug/L		84	17 - 168	4	87
Dibenz(a,h)anthracene	<0.19		38.1	34.2		ug/L		90	1 - 227	2	126
Dibenzofuran	<0.19		38.1	30.7		ug/L		80	42 - 111	6	30
Fluoranthene	<0.19		38.1	34.3		ug/L		90	26 - 137	6	66
Fluorene	<0.19		38.1	30.6		ug/L		80	59 - 121	7	38
Hexachloroethane	<0.19		38.1	25.3		ug/L		66	40 - 120	10	52
Indeno[1,2,3-cd]pyrene	<0.19		38.1	33.7		ug/L		88	1 - 171	2	99
Naphthalene	<0.19		38.1	21.2		ug/L		56	21 - 133	7	65
Nitrobenzene	<0.19		38.1	22.5		ug/L		59	35 - 180	8	62
N-Nitrosodi-n-propylamine	<0.19		19.1	12.0		ug/L		63	1 - 230	10	87
N-Nitrosodiphenylamine	<0.19		19.1	15.7		ug/L		83	10 - 179	9	30
Pentachlorophenol	<0.96		38.1	31.7		ug/L		83	14 - 176	10	86
Phenanthrene	<0.19		38.1	32.0		ug/L		84	54 - 120	5	39
Phenol	<0.96		38.1	15.0		ug/L		39	5 - 120	9	64
Pyrene	<0.19		38.1	32.8		ug/L		86	52 - 120	3	49

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol (Surr)	68		28 - 127
2-Fluorobiphenyl (Surr)	39		31 - 120
2-Fluorophenol (Surr)	45		17 - 120
Nitrobenzene-d5 (Surr)	31		27 - 120
Phenol-d6 (Surr)	30		10 - 120
p-Terphenyl-d14 (Surr)	49		45 - 120

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 570-489970/11**  
**Matrix: Water**  
**Analysis Batch: 489970**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (C6-C10)	<10		10	ug/L			10/10/24 17:53	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		38 - 134				10/10/24 17:53	1

**Lab Sample ID: LCS 570-489970/1010**  
**Matrix: Water**  
**Analysis Batch: 489970**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	400	427		ug/L		107	78 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	95		38 - 134				

**Lab Sample ID: LCSD 570-489970/12**  
**Matrix: Water**  
**Analysis Batch: 489970**

**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
Gasoline Range Organics (C4-C13)	400	397		ug/L		99	78 - 120	7	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	96		38 - 134						

**Lab Sample ID: MRL 570-489970/1005**  
**Matrix: Water**  
**Analysis Batch: 489970**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	10.0	10.7		ug/L		107	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
4-Bromofluorobenzene (Surr)	79		38 - 134				

**Lab Sample ID: 380-115753-B-3 MS**  
**Matrix: Water**  
**Analysis Batch: 489970**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	<10		400	404		ug/L		101	68 - 122
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	92		38 - 134						

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115753-B-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 489970**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		400	406		ug/L		101	68 - 122	0	18
<b>Surrogate</b>		<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>							
4-Bromofluorobenzene (Surr)		93		38 - 134							

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

**Lab Sample ID: MBL 380-111631/13-A**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.0040		0.020	ug/L		10/03/24 13:30	10/03/24 20:05	1
1,2-Dibromo-3-Chloropropane	<0.0020		0.010	ug/L		10/03/24 13:30	10/03/24 20:05	1
1,2-Dibromoethane	<0.0040		0.010	ug/L		10/03/24 13:30	10/03/24 20:05	1
<b>Surrogate</b>		<b>MBL %Recovery</b>	<b>MBL Qualifier</b>	<b>Limits</b>		<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dibromopropane (Surr)		99		60 - 140		10/03/24 13:30	10/03/24 20:05	1

**Lab Sample ID: LCS 380-111631/38-A**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.200	0.220		ug/L		110	70 - 130
1,2-Dibromo-3-Chloropropane	0.200	0.214		ug/L		107	70 - 130
1,2-Dibromoethane	0.200	0.226		ug/L		113	70 - 130
<b>Surrogate</b>		<b>LCS %Recovery</b>	<b>LCS Qualifier</b>	<b>Limits</b>			
1,2-Dibromopropane (Surr)		107		60 - 140			

**Lab Sample ID: MRL 380-111631/11-A**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0200	0.0208		ug/L		104	60 - 140
<b>Surrogate</b>		<b>MRL %Recovery</b>	<b>MRL Qualifier</b>	<b>Limits</b>			
1,2-Dibromopropane (Surr)		92		60 - 140			

**Lab Sample ID: MRL 380-111631/12-A**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0519		ug/L		104	60 - 140

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111631/12-A**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.0100	0.0108		ug/L		108	60 - 140
1,2-Dibromoethane	0.0100	0.00981	J	ug/L		98	60 - 140
<b>Surrogate</b>	<b>MRL %Recovery</b>	<b>MRL Qualifier</b>	<b>Limits</b>				
1,2-Dibromopropane (Surr)	100		60 - 140				

**Lab Sample ID: 380-115838-CA-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	<0.020		1.27	1.25		ug/L		99	65 - 135
1,2-Dibromo-3-Chloropropane	<0.010		0.254	0.246		ug/L		97	65 - 135
1,2-Dibromoethane	<0.010		0.254	0.236		ug/L		93	65 - 135
<b>Surrogate</b>	<b>MS %Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dibromopropane (Surr)	97		60 - 140						

**Lab Sample ID: 380-115841-BX-1-A DU**  
**Matrix: Water**  
**Analysis Batch: 111828**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 111631**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
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>Surrogate</b>	<b>DU %Recovery</b>	<b>DU Qualifier</b>	<b>Limits</b>					
1,2-Dibromopropane (Surr)	100		60 - 140					

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

**Lab Sample ID: MB 380-111931/3-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	<0.50		0.50	ug/L		10/04/24 15:37	10/04/24 18:12	1
Chlordane (n.o.s.)	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1016	<0.070		0.070	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1221	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1232	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1242	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1248	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1254	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1
PCB-1260	<0.070		0.070	ug/L		10/04/24 15:37	10/04/24 18:12	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		10/04/24 15:37	10/04/24 18:12	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 380-111931/3-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	95		70 - 130	10/04/24 15:37	10/04/24 18:12	1

**Lab Sample ID: LCS 380-111931/28-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Toxaphene	2.50	2.79		ug/L		112	70 - 130

  

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	98		70 - 130

**Lab Sample ID: LCS 380-111931/30-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chlordane (n.o.s.)	0.500	0.482		ug/L		96	70 - 130

  

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	98		70 - 130

**Lab Sample ID: LCSD 380-111931/29-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Toxaphene	2.50	2.58		ug/L		103	70 - 130	8	20

  

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	93		70 - 130

**Lab Sample ID: MRL 380-111931/1-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Toxaphene	0.500	0.550		ug/L		110	50 - 150

  

Surrogate	MRL	MRL	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	98		70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111931/2-A**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	0.100	0.0925	J	ug/L		93	50 - 150
<b>Surrogate</b>		<b>MRL</b>	<b>MRL</b>				<b>Limits</b>
<i>Tetrachloro-m-xylene</i>		100					70 - 130

**Lab Sample ID: 380-115838-BX-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	<0.51		2.52	2.76		ug/L		109	65 - 135
<b>Surrogate</b>		<b>MS</b>		<b>MS</b>					<b>Limits</b>
<i>Tetrachloro-m-xylene</i>		91							70 - 130

**Lab Sample ID: 380-115838-BY-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	<0.10		0.503	0.466		ug/L		93	65 - 135
<b>Surrogate</b>		<b>MS</b>		<b>MS</b>					<b>Limits</b>
<i>Tetrachloro-m-xylene</i>		93							70 - 130

**Lab Sample ID: 380-115841-BY-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	<0.51		2.53	2.72		ug/L		108	65 - 135
<b>Surrogate</b>		<b>MS</b>		<b>MS</b>					<b>Limits</b>
<i>Tetrachloro-m-xylene</i>		90							70 - 130

**Lab Sample ID: 380-115841-BZ-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 111937**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 111931**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	<0.10		0.510	0.490		ug/L		96	65 - 135
<b>Surrogate</b>		<b>MS</b>		<b>MS</b>					<b>Limits</b>
<i>Tetrachloro-m-xylene</i>		101							70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MB 570-488004/1-A**  
**Matrix: Water**  
**Analysis Batch: 488344**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 488004**

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Diesel Range Organics (C10-C24)	<25		25	ug/L		10/04/24 13:52	10/06/24 06:58	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		10/04/24 13:52	10/06/24 06:58	1
C8-C18	<25		25	ug/L		10/04/24 13:52	10/06/24 06:58	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac
<i>n</i> -Octacosane (Surr)	%Recovery	Qualifier					10/04/24 13:52	10/06/24 06:58
	118		60 - 130					

**Lab Sample ID: LCS 570-488004/2-A**  
**Matrix: Water**  
**Analysis Batch: 488344**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 488004**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
C10-C28	1600	1160		ug/L		72	56 - 127
Surrogate	LCS LCS		Limits			%Rec	Limits
<i>n</i> -Octacosane (Surr)	%Recovery	Qualifier					
	108		60 - 130				

**Lab Sample ID: LCSD 570-488004/3-A**  
**Matrix: Water**  
**Analysis Batch: 488344**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 488004**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
C10-C28	1600	1210		ug/L		76	56 - 127	5	23
Surrogate	LCSD LCSD		Limits			%Rec	Limits	RPD	Limit
<i>n</i> -Octacosane (Surr)	%Recovery	Qualifier							
	116		60 - 130						

**Lab Sample ID: MRL 570-488004/4-A**  
**Matrix: Water**  
**Analysis Batch: 488344**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 488004**

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
C10-C28	0.0200	0.0222	J	mg/L		111	50 - 150
Surrogate	MRL MRL		Limits			%Rec	Limits
<i>n</i> -Octacosane (Surr)	%Recovery	Qualifier					
	112		60 - 130				

**Lab Sample ID: 380-115753-C-3-A MS**  
**Matrix: Water**  
**Analysis Batch: 488344**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 488004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
C10-C28	<26		1630	1320		ug/L		81	70 - 130
Surrogate	MS MS		Limits			%Rec	Limits		
<i>n</i> -Octacosane (Surr)	%Recovery	Qualifier							
	111		60 - 130						

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115753-C-3-B MSD**  
**Matrix: Water**  
**Analysis Batch: 488344**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 488004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C10-C28	<26		1630	1380		ug/L		85	70 - 130	5	20
<b>Surrogate</b>	<b>MSD %Recovery</b>		<b>MSD Qualifier</b>						<b>Limits</b>		
<i>n-Octacosane (Surr)</i>	112								60 - 130		

## Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

**Lab Sample ID: MB 570-487891/10**  
**Matrix: Water**  
**Analysis Batch: 487891**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Ethanol	<0.10		0.10	mg/L			10/04/24 15:04	1	
<b>Surrogate</b>	<b>MB %Recovery</b>		<b>MB Qualifier</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>Hexafluoro-2-propanol (Surr)</i>	114						10/04/24 15:04	1	

**Lab Sample ID: LCS 570-487891/11**  
**Matrix: Water**  
**Analysis Batch: 487891**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethanol	2.00	2.05		mg/L		102	78 - 131
<b>Surrogate</b>	<b>LCS %Recovery</b>		<b>LCS Qualifier</b>				<b>Limits</b>
<i>Hexafluoro-2-propanol (Surr)</i>	104						54 - 120

**Lab Sample ID: LCSD 570-487891/12**  
**Matrix: Water**  
**Analysis Batch: 487891**

**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
Ethanol	2.00	2.00		mg/L		100	78 - 131	1	25
<b>Surrogate</b>	<b>LCSD %Recovery</b>		<b>LCSD Qualifier</b>				<b>Limits</b>		
<i>Hexafluoro-2-propanol (Surr)</i>	107						54 - 120		

**Lab Sample ID: MRL 570-487891/13**  
**Matrix: Water**  
**Analysis Batch: 487891**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ethanol	0.100	0.0966	J	mg/L		97	50 - 150
<b>Surrogate</b>	<b>MRL %Recovery</b>		<b>MRL Qualifier</b>				<b>Limits</b>
<i>Hexafluoro-2-propanol (Surr)</i>	100						54 - 120

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC) (Continued)

**Lab Sample ID: 380-115709-AD-1 MS**  
**Matrix: Water**  
**Analysis Batch: 487891**

**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	
Ethanol	<0.10		2.00	1.89		mg/L		95	20 - 173	
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>MS Limits</b>							
Hexafluoro-2-propanol (Surr)	96		54 - 120							

**Lab Sample ID: 380-115709-AD-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 487891**

**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
Ethanol	<0.10		2.00	1.82		mg/L		91	20 - 173	4	21
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>MSD Limits</b>								
Hexafluoro-2-propanol (Surr)	91		54 - 120								

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 380-111532/53**  
**Matrix: Water**  
**Analysis Batch: 111532**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.050		0.050	mg/L			10/03/24 02:17	1
Nitrite as N	<0.050		0.050	mg/L			10/03/24 02:17	1

**Lab Sample ID: LCS 380-111532/56**  
**Matrix: Water**  
**Analysis Batch: 111532**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.43		mg/L		97	90 - 110
Nitrite as N	1.00	0.998		mg/L		100	90 - 110

**Lab Sample ID: LCSD 380-111532/57**  
**Matrix: Water**  
**Analysis Batch: 111532**

**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
Nitrate as N	2.50	2.43		mg/L		97	90 - 110	0	20
Nitrite as N	1.00	0.998		mg/L		100	90 - 110	0	20

**Lab Sample ID: MRL 380-111532/54**  
**Matrix: Water**  
**Analysis Batch: 111532**

**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	0.0115	J	mg/L		92	50 - 150
Nitrite as N	0.0125	0.0126	J	mg/L		101	50 - 150

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111532/55**  
**Matrix: Water**  
**Analysis Batch: 111532**

**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	0.0455	J	mg/L		91	50 - 150
Nitrite as N	0.0500	0.0495	J	mg/L		99	50 - 150

**Lab Sample ID: 380-115765-S-1 MS**  
**Matrix: Water**  
**Analysis Batch: 111532**

**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	<0.050		1.25	1.25		mg/L		98	80 - 120
Nitrite as N	<0.050		0.500	0.490		mg/L		98	80 - 120

**Lab Sample ID: 380-115765-S-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 111532**

**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	<0.050		1.25	1.24		mg/L		97	80 - 120	0	20
Nitrite as N	<0.050		0.500	0.487		mg/L		97	80 - 120	0	20

**Lab Sample ID: MB 380-111533/53**  
**Matrix: Water**  
**Analysis Batch: 111533**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.50	B	0.50	mg/L			10/03/24 02:17	1
Sulfate	<0.25		0.25	mg/L			10/03/24 02:17	1

**Lab Sample ID: LCS 380-111533/56**  
**Matrix: Water**  
**Analysis Batch: 111533**

**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	25.1		mg/L		100	90 - 110
Sulfate	50.0	49.6		mg/L		99	90 - 110

**Lab Sample ID: LCSD 380-111533/57**  
**Matrix: Water**  
**Analysis Batch: 111533**

**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	25.1		mg/L		100	90 - 110	0	20
Sulfate	50.0	49.6		mg/L		99	90 - 110	0	20

**Lab Sample ID: MRL 380-111533/54**  
**Matrix: Water**  
**Analysis Batch: 111533**

**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	0.124	J	mg/L		99	50 - 150
Sulfate	0.250	0.233	J	mg/L		93	50 - 150

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MRL 380-111533/55**  
**Matrix: Water**  
**Analysis Batch: 111533**

**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	0.439	J	mg/L		88	50 - 150
Sulfate	0.999	0.934		mg/L		94	50 - 150

**Lab Sample ID: 380-115765-S-1 MS**  
**Matrix: Water**  
**Analysis Batch: 111533**

**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	4.8	B	12.5	17.5		mg/L		102	80 - 120
Sulfate	9.0		25.0	34.1		mg/L		101	80 - 120

**Lab Sample ID: 380-115765-S-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 111533**

**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	4.8	B	12.5	17.5		mg/L		102	80 - 120	0	20
Sulfate	9.0		25.0	34.1		mg/L		100	80 - 120	0	20

**Lab Sample ID: MB 380-111865/6**  
**Matrix: Water**  
**Analysis Batch: 111865**

**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			10/04/24 02:55	1

**Lab Sample ID: LCS 380-111865/7**  
**Matrix: Water**  
**Analysis Batch: 111865**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	96.7		ug/L		97	90 - 110

**Lab Sample ID: LCSD 380-111865/8**  
**Matrix: Water**  
**Analysis Batch: 111865**

**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	96.2		ug/L		96	90 - 110	1	10

**Lab Sample ID: MRL 380-111865/5**  
**Matrix: Water**  
**Analysis Batch: 111865**

**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	4.98	J	ug/L		100	75 - 125

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115804-A-1 MS**  
**Matrix: Water**  
**Analysis Batch: 111865**

**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	55		50.0	102		ug/L		93	80 - 120

**Lab Sample ID: 380-115804-A-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 111865**

**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	55		50.0	102		ug/L		94	80 - 120	1	20

**Lab Sample ID: MB 380-112164/14**  
**Matrix: Water**  
**Analysis Batch: 112164**

**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			10/07/24 21:38	1

**Lab Sample ID: LCS 380-112164/15**  
**Matrix: Water**  
**Analysis Batch: 112164**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	98.3		ug/L		98	90 - 110

**Lab Sample ID: LCSD 380-112164/16**  
**Matrix: Water**  
**Analysis Batch: 112164**

**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
Bromide	100	98.4		ug/L		98	90 - 110	0	10

**Lab Sample ID: MRL 380-112164/13**  
**Matrix: Water**  
**Analysis Batch: 112164**

**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	5.45		ug/L		109	75 - 125

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

**Lab Sample ID: MB 380-111765/119**  
**Matrix: Water**  
**Analysis Batch: 111765**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<1.0		1.0	mg/L			10/03/24 16:24	1
Magnesium	<0.10		0.10	mg/L			10/03/24 16:24	1
Potassium	<1.0	^5+	1.0	mg/L			10/03/24 16:24	1
Sodium	<1.0		1.0	mg/L			10/03/24 16:24	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111765/123**  
**Matrix: Water**  
**Analysis Batch: 111765**

**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	52.7		mg/L		105	85 - 115
Magnesium	20.0	20.9		mg/L		105	85 - 115
Potassium	20.0	21.6	^5+	mg/L		108	85 - 115
Sodium	50.0	52.3		mg/L		105	85 - 115

**Lab Sample ID: LCSD 380-111765/124**  
**Matrix: Water**  
**Analysis Batch: 111765**

**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	52.5		mg/L		105	85 - 115	0	20
Magnesium	20.0	20.8		mg/L		104	85 - 115	1	20
Potassium	20.0	21.5	^5+	mg/L		108	85 - 115	0	20
Sodium	50.0	52.2		mg/L		104	85 - 115	0	20

**Lab Sample ID: LLCS 380-111765/122**  
**Matrix: Water**  
**Analysis Batch: 111765**

**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	1.06		mg/L		106	50 - 150
Magnesium	0.100	0.0998	J	mg/L		100	50 - 150
Potassium	1.00	0.817	J	mg/L		82	50 - 150
Sodium	1.00	1.07		mg/L		107	50 - 150

**Lab Sample ID: 380-115619-A-8 MS**  
**Matrix: Water**  
**Analysis Batch: 111765**

**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	27		50.0	81.9		mg/L		110	70 - 130
Magnesium	17		20.0	39.4		mg/L		110	70 - 130
Potassium	2.6	^5+	20.0	26.5	^5+	mg/L		120	70 - 130
Sodium	9.0		50.0	64.0		mg/L		110	70 - 130

**Lab Sample ID: 380-115619-A-8 MSD**  
**Matrix: Water**  
**Analysis Batch: 111765**

**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	27		50.0	83.0		mg/L		112	70 - 130	1	20
Magnesium	17		20.0	40.0		mg/L		113	70 - 130	2	20
Potassium	2.6	^5+	20.0	27.5	^5+	mg/L		124	70 - 130	3	20
Sodium	9.0		50.0	66.4		mg/L		115	70 - 130	4	20

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MBL 380-112515/1-A**  
**Matrix: Water**  
**Analysis Batch: 112707**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.48		1.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Arsenic	<0.49		1.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Cadmium	<0.081		0.50	ug/L		10/09/24 11:37	10/09/24 20:07	1
Chromium	<0.80		1.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Copper	<0.27		2.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Lead	<0.29		0.50	ug/L		10/09/24 11:37	10/09/24 20:07	1
Nickel	<0.38		5.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Selenium	<1.0		5.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Silver	<0.40		0.50	ug/L		10/09/24 11:37	10/09/24 20:07	1
Thallium	<0.32		1.0	ug/L		10/09/24 11:37	10/09/24 20:07	1
Zinc	<4.3		20	ug/L		10/09/24 11:37	10/09/24 20:07	1

**Lab Sample ID: MBL 380-112515/1-A**  
**Matrix: Water**  
**Analysis Batch: 112818**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.48		1.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Arsenic	<0.49		1.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Beryllium	<0.18		1.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Cadmium	<0.081		0.50	ug/L		10/09/24 11:37	10/10/24 12:35	1
Chromium	<0.80		1.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Copper	<0.27		2.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Lead	<0.29		0.50	ug/L		10/09/24 11:37	10/10/24 12:35	1
Nickel	<0.38		5.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Selenium	<1.0		5.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Silver	<0.40		0.50	ug/L		10/09/24 11:37	10/10/24 12:35	1
Thallium	<0.32		1.0	ug/L		10/09/24 11:37	10/10/24 12:35	1
Zinc	<4.3		20	ug/L		10/09/24 11:37	10/10/24 12:35	1

**Lab Sample ID: LCS 380-112515/4-A**  
**Matrix: Water**  
**Analysis Batch: 112707**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	49.2		ug/L		98	85 - 115
Arsenic	50.0	48.6		ug/L		97	85 - 115
Cadmium	50.0	49.4		ug/L		99	85 - 115
Chromium	50.0	49.1		ug/L		98	85 - 115
Copper	50.0	49.4		ug/L		99	85 - 115
Lead	50.0	50.8		ug/L		102	85 - 115
Nickel	50.0	49.9		ug/L		100	85 - 115
Selenium	50.0	50.0		ug/L		100	85 - 115
Silver	50.0	48.6		ug/L		97	85 - 115
Thallium	50.0	50.0		ug/L		100	85 - 115
Zinc	50.0	49.2		ug/L		98	85 - 115

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-112515/4-A**  
**Matrix: Water**  
**Analysis Batch: 112818**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	49.0		ug/L		98	85 - 115
Arsenic	50.0	49.7		ug/L		99	85 - 115
Beryllium	50.0	49.2		ug/L		98	85 - 115
Cadmium	50.0	48.9		ug/L		98	85 - 115
Chromium	50.0	50.4		ug/L		101	85 - 115
Copper	50.0	49.0		ug/L		98	85 - 115
Lead	50.0	50.1		ug/L		100	85 - 115
Nickel	50.0	49.7		ug/L		99	85 - 115
Selenium	50.0	49.4		ug/L		99	85 - 115
Silver	50.0	48.9		ug/L		98	85 - 115
Thallium	50.0	49.5		ug/L		99	85 - 115
Zinc	50.0	48.9		ug/L		98	85 - 115

**Lab Sample ID: LCSD 380-112515/5-A**  
**Matrix: Water**  
**Analysis Batch: 112707**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	48.3		ug/L		97	85 - 115	2	20
Arsenic	50.0	48.6		ug/L		97	85 - 115	0	20
Cadmium	50.0	49.4		ug/L		99	85 - 115	0	20
Chromium	50.0	48.9		ug/L		98	85 - 115	0	20
Copper	50.0	49.7		ug/L		99	85 - 115	1	20
Lead	50.0	50.7		ug/L		101	85 - 115	0	20
Nickel	50.0	50.2		ug/L		100	85 - 115	1	20
Selenium	50.0	49.8		ug/L		100	85 - 115	0	20
Silver	50.0	49.2		ug/L		98	85 - 115	1	20
Thallium	50.0	50.1		ug/L		100	85 - 115	0	20
Zinc	50.0	49.2		ug/L		98	85 - 115	0	20

**Lab Sample ID: LCSD 380-112515/5-A**  
**Matrix: Water**  
**Analysis Batch: 112818**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	50.2		ug/L		100	85 - 115	2	20
Arsenic	50.0	50.1		ug/L		100	85 - 115	1	20
Beryllium	50.0	49.1		ug/L		98	85 - 115	0	20
Cadmium	50.0	49.2		ug/L		98	85 - 115	1	20
Chromium	50.0	50.3		ug/L		101	85 - 115	0	20
Copper	50.0	49.1		ug/L		98	85 - 115	0	20
Lead	50.0	49.9		ug/L		100	85 - 115	0	20
Nickel	50.0	49.9		ug/L		100	85 - 115	0	20
Selenium	50.0	50.2		ug/L		100	85 - 115	2	20
Silver	50.0	50.3		ug/L		101	85 - 115	3	20
Thallium	50.0	49.1		ug/L		98	85 - 115	1	20
Zinc	50.0	49.2		ug/L		98	85 - 115	1	20

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LLCS 380-112515/3-A**  
**Matrix: Water**  
**Analysis Batch: 112707**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	1.06		ug/L		106	50 - 150
Arsenic	1.00	1.16		ug/L		116	50 - 150
Cadmium	0.500	0.444	J	ug/L		89	50 - 150
Copper	2.00	1.92	J	ug/L		96	50 - 150
Lead	0.500	0.468	J	ug/L		94	50 - 150
Nickel	5.00	4.68	J	ug/L		94	50 - 150
Selenium	5.00	4.90	J	ug/L		98	50 - 150
Silver	0.500	0.486	J	ug/L		97	50 - 150
Thallium	1.00	0.952	J	ug/L		95	50 - 150
Zinc	20.0	19.1	J	ug/L		96	50 - 150

**Lab Sample ID: LLCS 380-112515/3-A**  
**Matrix: Water**  
**Analysis Batch: 112818**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

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	1.01		ug/L		101	50 - 150
Beryllium	1.00	0.892	J	ug/L		89	50 - 150
Cadmium	0.500	0.498	J	ug/L		100	50 - 150
Chromium	1.00	1.02		ug/L		102	50 - 150
Copper	2.00	1.94	J	ug/L		97	50 - 150
Lead	0.500	0.470	J	ug/L		94	50 - 150
Nickel	5.00	4.79	J	ug/L		96	50 - 150
Selenium	5.00	4.79	J	ug/L		96	50 - 150
Silver	0.500	0.489	J	ug/L		98	50 - 150
Thallium	1.00	0.988	J	ug/L		99	50 - 150
Zinc	20.0	19.5	J	ug/L		97	50 - 150

**Lab Sample ID: 380-115740-1 MS**  
**Matrix: Drinking Water**  
**Analysis Batch: 112707**

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.0		50.0	49.3		ug/L		99	70 - 130
Arsenic	<1.0		50.0	46.2		ug/L		92	70 - 130
Cadmium	<0.50		50.0	47.0		ug/L		94	70 - 130
Chromium	1.6	*-	50.0	46.4		ug/L		90	70 - 130
Copper	<2.0		50.0	43.4		ug/L		86	70 - 130
Lead	<0.50		50.0	46.5		ug/L		93	70 - 130
Nickel	<5.0		50.0	43.9		ug/L		88	70 - 130
Selenium	<5.0		50.0	48.1		ug/L		93	70 - 130
Silver	<0.50	F1	50.0	2.33	F1	ug/L		5	70 - 130
Thallium	<1.0		50.0	45.8		ug/L		92	70 - 130
Zinc	<20		50.0	57.5		ug/L		89	70 - 130

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115740-1 MS**  
**Matrix: Drinking Water**  
**Analysis Batch: 112818**

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Antimony	<1.0		50.0	50.6		ug/L		101	70 - 130	
Arsenic	<1.0		50.0	49.0		ug/L		98	70 - 130	
Beryllium	<1.0		50.0	46.0		ug/L		92	70 - 130	
Cadmium	<0.50		50.0	47.7		ug/L		95	70 - 130	
Chromium	2.2		50.0	49.7		ug/L		95	70 - 130	
Copper	<2.0		50.0	44.6		ug/L		88	70 - 130	
Lead	<0.50		50.0	46.6		ug/L		93	70 - 130	
Nickel	<5.0		50.0	45.7		ug/L		91	70 - 130	
Selenium	<5.0		50.0	49.1		ug/L		95	70 - 130	
Silver	<0.50	F1	50.0	2.39	F1	ug/L		5	70 - 130	
Thallium	<1.0		50.0	46.6		ug/L		93	70 - 130	
Zinc	<20		50.0	59.5		ug/L		93	70 - 130	

**Lab Sample ID: 380-115740-1 MSD**  
**Matrix: Drinking Water**  
**Analysis Batch: 112707**

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Antimony	<1.0		50.0	51.0		ug/L		102	70 - 130	3	20	
Arsenic	<1.0		50.0	49.2		ug/L		98	70 - 130	6	20	
Cadmium	<0.50		50.0	49.2		ug/L		98	70 - 130	5	20	
Chromium	1.6	*-	50.0	49.3		ug/L		95	70 - 130	6	20	
Copper	<2.0		50.0	46.4		ug/L		92	70 - 130	7	20	
Lead	<0.50		50.0	49.2		ug/L		98	70 - 130	6	20	
Nickel	<5.0		50.0	46.8		ug/L		94	70 - 130	6	20	
Selenium	<5.0		50.0	51.3		ug/L		100	70 - 130	6	20	
Silver	<0.50	F1	50.0	2.03	F1	ug/L		4	70 - 130	14	20	
Thallium	<1.0		50.0	48.7		ug/L		97	70 - 130	6	20	
Zinc	<20		50.0	61.2		ug/L		96	70 - 130	6	20	

**Lab Sample ID: 380-115740-1 MSD**  
**Matrix: Drinking Water**  
**Analysis Batch: 112818**

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**  
**Prep Type: Total Recoverable**  
**Prep Batch: 112515**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Antimony	<1.0		50.0	51.7		ug/L		103	70 - 130	2	20	
Arsenic	<1.0		50.0	50.7		ug/L		101	70 - 130	4	20	
Beryllium	<1.0		50.0	46.3		ug/L		93	70 - 130	1	20	
Cadmium	<0.50		50.0	49.1		ug/L		98	70 - 130	3	20	
Chromium	2.2		50.0	51.9		ug/L		99	70 - 130	4	20	
Copper	<2.0		50.0	46.0		ug/L		91	70 - 130	3	20	
Lead	<0.50		50.0	48.4		ug/L		97	70 - 130	4	20	
Nickel	<5.0		50.0	47.2		ug/L		93	70 - 130	3	20	
Selenium	<5.0		50.0	51.3		ug/L		100	70 - 130	4	20	
Silver	<0.50	F1	50.0	2.04	F1	ug/L		4	70 - 130	16	20	
Thallium	<1.0		50.0	47.9		ug/L		96	70 - 130	3	20	
Zinc	<20		50.0	61.6		ug/L		97	70 - 130	4	20	

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 810-118741/1-A**  
**Matrix: Water**  
**Analysis Batch: 118802**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 118741**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		10/14/24 13:26	10/14/24 18:12	1

**Lab Sample ID: LCS 810-118741/3-A**  
**Matrix: Water**  
**Analysis Batch: 118802**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 118741**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	0.935		ug/L		93	85 - 115

**Lab Sample ID: LLCS 810-118741/2-A**  
**Matrix: Water**  
**Analysis Batch: 118802**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 118741**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.100	0.113		ug/L		113	50 - 150

**Lab Sample ID: 810-122160-K-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 118802**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 118741**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.10		1.00	0.951		ug/L		95	70 - 130

**Lab Sample ID: 810-122160-K-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 118802**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 118741**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.10		1.00	0.951		ug/L		95	70 - 130	0	20

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 380-111949/1**  
**Matrix: Water**  
**Analysis Batch: 111949**

**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			10/04/24 16:34	1
Bicarbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			10/04/24 16:34	1
Carbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			10/04/24 16:34	1

**Lab Sample ID: LCS 380-111949/3**  
**Matrix: Water**  
**Analysis Batch: 111949**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	97.7		mg/L		98	90 - 110

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCSD 380-111949/18**  
**Matrix: Water**  
**Analysis Batch: 111949**

**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
Alkalinity	100	97.6		mg/L		98	90 - 110	0	20

**Lab Sample ID: LLCS 380-111949/4**  
**Matrix: Water**  
**Analysis Batch: 111949**

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	20.0	20.0		mg/L		100	90 - 110		

**Lab Sample ID: MRL 380-111949/2**  
**Matrix: Water**  
**Analysis Batch: 111949**

**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
Alkalinity	2.00	2.08		mg/L		104	50 - 150		

**Lab Sample ID: 380-115888-F-4 MS**  
**Matrix: Water**  
**Analysis Batch: 111949**

**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
Alkalinity	78		100	175		mg/L		97	80 - 120		

**Lab Sample ID: 380-115888-F-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 111949**

**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	78		100	175		mg/L		97	80 - 120	0	20

**Lab Sample ID: 380-115888-F-4 DU**  
**Matrix: Water**  
**Analysis Batch: 111949**

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

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	78			77.9		mg/L				0.08	20
Bicarbonate Alkalinity as CaCO3	78			77.9		mg/L				0.08	20
Carbonate Alkalinity as CaCO3	<2.0			<2.0		mg/L				NC	20

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

**Lab Sample ID: MB 380-111944/3**  
**Matrix: Water**  
**Analysis Batch: 111944**

**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			10/04/24 16:34	1

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# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: LCS 380-111944/5**  
**Matrix: Water**  
**Analysis Batch: 111944**

**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	1010		umhos/cm		101	90 - 110

**Lab Sample ID: LCSD 380-111944/17**  
**Matrix: Water**  
**Analysis Batch: 111944**

**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	999		umhos/cm		100	90 - 110	1	10

**Lab Sample ID: MRL 380-111944/4**  
**Matrix: Water**  
**Analysis Batch: 111944**

**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

**Lab Sample ID: 380-115888-F-4 DU**  
**Matrix: Water**  
**Analysis Batch: 111944**

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	540	^2	537		umhos/cm		0.07	20

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

**Lab Sample ID: MB 380-111678/1**  
**Matrix: Water**  
**Analysis Batch: 111678**

**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			10/03/24 15:59	1

**Lab Sample ID: HLCS 380-111678/5**  
**Matrix: Water**  
**Analysis Batch: 111678**

**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	700		mg/L		100	80 - 114

**Lab Sample ID: LCS 380-111678/4**  
**Matrix: Water**  
**Analysis Batch: 111678**

**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	166		mg/L		95	80 - 114



# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: MRL 380-111678/2**  
**Matrix: Water**  
**Analysis Batch: 111678**

**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 380-111678/3**  
**Matrix: Water**  
**Analysis Batch: 111678**

**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: 380-115709-E-1 DU**  
**Matrix: Water**  
**Analysis Batch: 111678**

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	310		306		mg/L		1	10

## Method: SM 4500 F C - Fluoride

**Lab Sample ID: MB 380-111954/38**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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			10/04/24 19:47	1

**Lab Sample ID: MB 380-111954/72**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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			10/04/24 22:20	1

**Lab Sample ID: LCS 380-111954/74**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.988		mg/L		99	90 - 110

**Lab Sample ID: LCSD 380-111954/75**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.987		mg/L		99	90 - 110	0	10

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Method: SM 4500 F C - Fluoride (Continued)

**Lab Sample ID: MRL 380-111954/39**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.0508		mg/L		102	50 - 150

**Lab Sample ID: MRL 380-111954/5**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.0504		mg/L		101	50 - 150

**Lab Sample ID: MRL 380-111954/73**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.0495	J	mg/L		99	50 - 150

**Lab Sample ID: 380-116082-F-1 MS**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.052		1.00	1.04		mg/L		98	80 - 120

**Lab Sample ID: 380-116082-F-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 111954**

**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	0.052		1.00	1.04		mg/L		99	80 - 120	0	20

## Method: SM 4500 H+ B - pH

**Lab Sample ID: MB 380-111946/5**  
**Matrix: Water**  
**Analysis Batch: 111946**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.3			SU			10/04/24 16:34	1

**Lab Sample ID: LCS 380-111946/6**  
**Matrix: Water**  
**Analysis Batch: 111946**

**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	6.0		SU		100	98 - 102

# QC Sample Results

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Method: SM 4500 H+ B - pH (Continued)

**Lab Sample ID: LCSD 380-111946/18**  
**Matrix: Water**  
**Analysis Batch: 111946**

**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	6.0		SU		100	98 - 102	0	2

**Lab Sample ID: 380-115888-F-4 DU**  
**Matrix: Water**  
**Analysis Batch: 111946**

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

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8		7.7		SU		0.6	2

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

**Lab Sample ID: MBL 380-111870/2**  
**Matrix: Water**  
**Analysis Batch: 111870**

**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			10/04/24 15:49	1

**Lab Sample ID: LCS 380-111870/5**  
**Matrix: Water**  
**Analysis Batch: 111870**

**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	0.267		mg/L		107	90 - 110

**Lab Sample ID: LCSD 380-111870/6**  
**Matrix: Water**  
**Analysis Batch: 111870**

**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	0.252		mg/L		101	90 - 110	6	20

**Lab Sample ID: MRL 380-111870/3**  
**Matrix: Water**  
**Analysis Batch: 111870**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.0500	0.0586		mg/L		117	50 - 150

**Lab Sample ID: 380-115428-J-2 MS**  
**Matrix: Water**  
**Analysis Batch: 111870**

**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
Sulfide	<0.050	F1	0.250	0.129	F1	mg/L		51	80 - 120

# QC Sample Results

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

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

**Lab Sample ID: 380-115428-J-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 111870**

**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	F1	0.250	0.125	F1	mg/L		50	80 - 120	3	20

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

# QC Association Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## GC/MS VOA

### Analysis Batch: 111815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-111815/15	Method Blank	Total/NA	Water	524.2	
LCS 380-111815/11	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-111815/12	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-111815/13	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-111815/14	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 111817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	524.2	
MB 380-111817/5	Method Blank	Total/NA	Water	524.2	
LCS 380-111817/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-111817/4	Lab Control Sample Dup	Total/NA	Water	524.2	

### Analysis Batch: 111986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-2	TRAVEL BLANK	Total/NA	Water	524.2	
MB 380-111986/8	Method Blank	Total/NA	Water	524.2	
LCS 380-111986/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-111986/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-111986/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-111986/4	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 112043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	524.2	
380-115740-2	TRAVEL BLANK	Total/NA	Water	524.2	

### Analysis Batch: 112073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-2	TRAVEL BLANK	Total/NA	Water	524.2	
MB 380-112073/8	Method Blank	Total/NA	Water	524.2	
LCS 380-112073/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-112073/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-112073/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-112073/4	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 112090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	524.2	
MB 380-112090/5	Method Blank	Total/NA	Water	524.2	
LCS 380-112090/2	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-112090/3	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-112090/4	Lab Control Sample	Total/NA	Water	524.2	

## GC/MS Semi VOA

### Prep Batch: 111994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	525.2	
MB 380-111994/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-111994/23-A	Lab Control Sample	Total/NA	Water	525.2	

# QC Association Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## GC/MS Semi VOA (Continued)

### Prep Batch: 111994 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 380-111994/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-111994/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-115709-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	
380-115709-C-1-A MS	Matrix Spike	Total/NA	Water	525.2	

### Analysis Batch: 112094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	525.2	111994
LCS 380-111994/23-A	Lab Control Sample	Total/NA	Water	525.2	111994
LCSD 380-111994/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	111994
MRL 380-111994/22-A	Lab Control Sample	Total/NA	Water	525.2	111994
380-115709-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	111994
380-115709-C-1-A MS	Matrix Spike	Total/NA	Water	525.2	111994

### Analysis Batch: 112221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-111994/21-A	Method Blank	Total/NA	Water	525.2	111994

### Prep Batch: 487444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	625.1	
MB 570-487444/1-A	Method Blank	Total/NA	Water	625.1	
LCS 570-487444/2-A	Lab Control Sample	Total/NA	Water	625.1	
LCSD 570-487444/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	
380-115753-A-3-A MS	Matrix Spike	Total/NA	Water	625.1	
380-115753-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	625.1	

### Analysis Batch: 487832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-487444/1-A	Method Blank	Total/NA	Water	625.1 SIM	487444
LCS 570-487444/2-A	Lab Control Sample	Total/NA	Water	625.1 SIM	487444
LCSD 570-487444/3-A	Lab Control Sample Dup	Total/NA	Water	625.1 SIM	487444

### Analysis Batch: 488403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	625.1 SIM	487444
380-115753-A-3-A MS	Matrix Spike	Total/NA	Water	625.1 SIM	487444
380-115753-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	625.1 SIM	487444

### Analysis Batch: 491128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-487444/1-A	Method Blank	Total/NA	Water	625.1	487444

### Analysis Batch: 491732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	625.1	487444

# QC Association Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

## GC VOA

### Analysis Batch: 489970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	8015B GRO LL	
380-115740-2	TRAVEL BLANK	Total/NA	Water	8015B GRO LL	
MB 570-489970/11	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-489970/1010	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-489970/12	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-489970/1005	Lab Control Sample	Total/NA	Water	8015B GRO LL	
380-115753-B-3 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	
380-115753-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

## GC Semi VOA

### Prep Batch: 111631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	504.1	
380-115740-2	TRAVEL BLANK	Total/NA	Water	504.1	
MBL 380-111631/13-A	Method Blank	Total/NA	Water	504.1	
LCS 380-111631/38-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-111631/11-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-111631/12-A	Lab Control Sample	Total/NA	Water	504.1	
380-115838-CA-1-A MS	Matrix Spike	Total/NA	Water	504.1	
380-115841-BX-1-A DU	Duplicate	Total/NA	Water	504.1	

### Analysis Batch: 111828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	504.1	111631
380-115740-2	TRAVEL BLANK	Total/NA	Water	504.1	111631
MBL 380-111631/13-A	Method Blank	Total/NA	Water	504.1	111631
LCS 380-111631/38-A	Lab Control Sample	Total/NA	Water	504.1	111631
MRL 380-111631/11-A	Lab Control Sample	Total/NA	Water	504.1	111631
MRL 380-111631/12-A	Lab Control Sample	Total/NA	Water	504.1	111631
380-115838-CA-1-A MS	Matrix Spike	Total/NA	Water	504.1	111631
380-115841-BX-1-A DU	Duplicate	Total/NA	Water	504.1	111631

### Prep Batch: 111931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	505	
MB 380-111931/3-A	Method Blank	Total/NA	Water	505	
LCS 380-111931/28-A	Lab Control Sample	Total/NA	Water	505	
LCS 380-111931/30-A	Lab Control Sample	Total/NA	Water	505	
LCSD 380-111931/29-A	Lab Control Sample Dup	Total/NA	Water	505	
MRL 380-111931/1-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-111931/2-A	Lab Control Sample	Total/NA	Water	505	
380-115838-BX-1-B MS	Matrix Spike	Total/NA	Water	505	
380-115838-BY-1-B MS	Matrix Spike	Total/NA	Water	505	
380-115841-BY-1-B MS	Matrix Spike	Total/NA	Water	505	
380-115841-BZ-1-B MS	Matrix Spike	Total/NA	Water	505	

### Analysis Batch: 111937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	505	111931
MB 380-111931/3-A	Method Blank	Total/NA	Water	505	111931

# QC Association Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## GC Semi VOA (Continued)

### Analysis Batch: 111937 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-111931/28-A	Lab Control Sample	Total/NA	Water	505	111931
LCS 380-111931/30-A	Lab Control Sample	Total/NA	Water	505	111931
LCSD 380-111931/29-A	Lab Control Sample Dup	Total/NA	Water	505	111931
MRL 380-111931/1-A	Lab Control Sample	Total/NA	Water	505	111931
MRL 380-111931/2-A	Lab Control Sample	Total/NA	Water	505	111931
380-115838-BX-1-B MS	Matrix Spike	Total/NA	Water	505	111931
380-115838-BY-1-B MS	Matrix Spike	Total/NA	Water	505	111931
380-115841-BY-1-B MS	Matrix Spike	Total/NA	Water	505	111931
380-115841-BZ-1-B MS	Matrix Spike	Total/NA	Water	505	111931

### Analysis Batch: 487891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	8015B	
MB 570-487891/10	Method Blank	Total/NA	Water	8015B	
LCS 570-487891/11	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-487891/12	Lab Control Sample Dup	Total/NA	Water	8015B	
MRL 570-487891/13	Lab Control Sample	Total/NA	Water	8015B	
380-115709-AD-1 MS	Matrix Spike	Total/NA	Water	8015B	
380-115709-AD-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

### Prep Batch: 488004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	3510C	
MB 570-488004/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-488004/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-488004/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MRL 570-488004/4-A	Lab Control Sample	Total/NA	Water	3510C	
380-115753-C-3-A MS	Matrix Spike	Total/NA	Water	3510C	
380-115753-C-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	3510C	

### Analysis Batch: 488344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	8015B	488004
MB 570-488004/1-A	Method Blank	Total/NA	Water	8015B	488004
LCS 570-488004/2-A	Lab Control Sample	Total/NA	Water	8015B	488004
LCSD 570-488004/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	488004
MRL 570-488004/4-A	Lab Control Sample	Total/NA	Water	8015B	488004
380-115753-C-3-A MS	Matrix Spike	Total/NA	Water	8015B	488004
380-115753-C-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	488004

## HPLC/IC

### Analysis Batch: 111532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	300.0	
MB 380-111532/53	Method Blank	Total/NA	Water	300.0	
LCS 380-111532/56	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-111532/57	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-111532/54	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-111532/55	Lab Control Sample	Total/NA	Water	300.0	
380-115765-S-1 MS	Matrix Spike	Total/NA	Water	300.0	



# QC Association Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## HPLC/IC (Continued)

### Analysis Batch: 111532 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115765-S-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 111533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	300.0	
MB 380-111533/53	Method Blank	Total/NA	Water	300.0	
LCS 380-111533/56	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-111533/57	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-111533/54	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-111533/55	Lab Control Sample	Total/NA	Water	300.0	
380-115765-S-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-115765-S-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 111865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-111865/6	Method Blank	Total/NA	Water	300.0	
LCS 380-111865/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-111865/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-111865/5	Lab Control Sample	Total/NA	Water	300.0	
380-115804-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-115804-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 112164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	300.0	
MB 380-112164/14	Method Blank	Total/NA	Water	300.0	
LCS 380-112164/15	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-112164/16	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-112164/13	Lab Control Sample	Total/NA	Water	300.0	

## Metals

### Analysis Batch: 111765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	200.7 Rev 4.4	
MB 380-111765/119	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-111765/123	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-111765/124	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-111765/122	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-115619-A-8 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-115619-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

### Prep Batch: 112515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	
MBL 380-112515/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-112515/4-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-112515/5-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-112515/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-115740-1 MS	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	
380-115740-1 MSD	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	

# QC Association Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## Metals

### Analysis Batch: 112707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	112515
MBL 380-112515/1-A	Method Blank	Total Recoverable	Water	200.8	112515
LCS 380-112515/4-A	Lab Control Sample	Total Recoverable	Water	200.8	112515
LCSD 380-112515/5-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	112515
LLCS 380-112515/3-A	Lab Control Sample	Total Recoverable	Water	200.8	112515
380-115740-1 MS	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	112515
380-115740-1 MSD	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	112515

### Analysis Batch: 112818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	112515
MBL 380-112515/1-A	Method Blank	Total Recoverable	Water	200.8	112515
LCS 380-112515/4-A	Lab Control Sample	Total Recoverable	Water	200.8	112515
LCSD 380-112515/5-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	112515
LLCS 380-112515/3-A	Lab Control Sample	Total Recoverable	Water	200.8	112515
380-115740-1 MS	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	112515
380-115740-1 MSD	HALAWA WELLS P1 (331-023-WL065)	Total Recoverable	Drinking Water	200.8	112515

### Prep Batch: 118741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	245.1	
MB 810-118741/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-118741/3-A	Lab Control Sample	Total/NA	Water	245.1	
LLCS 810-118741/2-A	Lab Control Sample	Total/NA	Water	245.1	
810-122160-K-1-B MS	Matrix Spike	Total/NA	Water	245.1	
810-122160-K-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

### Analysis Batch: 118802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	245.1	118741
MB 810-118741/1-A	Method Blank	Total/NA	Water	245.1	118741
LCS 810-118741/3-A	Lab Control Sample	Total/NA	Water	245.1	118741
LLCS 810-118741/2-A	Lab Control Sample	Total/NA	Water	245.1	118741
810-122160-K-1-B MS	Matrix Spike	Total/NA	Water	245.1	118741
810-122160-K-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	118741

## General Chemistry

### Analysis Batch: 111678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	SM 2540C	
MB 380-111678/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-111678/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-111678/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-111678/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-111678/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-115709-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	

### Analysis Batch: 111870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	SM 4500 S2 D	

Eurofins Eaton Analytical Pomona

# QC Association Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

## General Chemistry (Continued)

### Analysis Batch: 111870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MBL 380-111870/2	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-111870/5	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-111870/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-111870/3	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-115428-J-2 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
380-115428-J-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

### Analysis Batch: 111944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	SM 2510B	
MB 380-111944/3	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-111944/5	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-111944/17	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-111944/4	Lab Control Sample	Total/NA	Water	SM 2510B	
380-115888-F-4 DU	Duplicate	Total/NA	Water	SM 2510B	

### Analysis Batch: 111946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	SM 4500 H+ B	
MB 380-111946/5	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-111946/6	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-111946/18	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-115888-F-4 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 111949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	SM 2320B	
MB 380-111949/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-111949/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-111949/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-111949/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-111949/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-115888-F-4 MS	Matrix Spike	Total/NA	Water	SM 2320B	
380-115888-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 2320B	
380-115888-F-4 DU	Duplicate	Total/NA	Water	SM 2320B	

### Analysis Batch: 111954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	SM 4500 F C	
MB 380-111954/38	Method Blank	Total/NA	Water	SM 4500 F C	
MB 380-111954/72	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-111954/74	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-111954/75	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-111954/39	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-111954/5	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-111954/73	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-116082-F-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-116082-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

# Lab Chronicle

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

**Client Sample ID: HALAWA WELLS P1 (331-023-WL065)**

**Lab Sample ID: 380-115740-1**

**Date Collected: 10/01/24 09:55**

**Matrix: Drinking Water**

**Date Received: 10/02/24 10:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	112090	P3EE	EA POM	10/07/24 17:56
Total/NA	Analysis	524.2		1	111817	N4CJ	EA POM	10/05/24 09:44
Total/NA	Analysis	524.2		1	112043	C4WQ	EA POM	10/05/24 09:44
Total/NA	Prep	525.2			111994	KRD3	EA POM	10/06/24 12:09
Total/NA	Analysis	525.2		1	112094	UPAC	EA POM	10/07/24 18:04
Total/NA	Prep	625.1			487444	H1SH	EET CAL 4	10/04/24 05:24
Total/NA	Analysis	625.1		1	491732	PQS1	EET CAL 4	10/15/24 18:13
Total/NA	Prep	625.1			487444	H1SH	EET CAL 4	10/04/24 05:24
Total/NA	Analysis	625.1 SIM		1	488403	PQS1	EET CAL 4	10/06/24 16:17
Total/NA	Analysis	8015B GRO LL		1	489970	A9VE	EET CAL 4	10/11/24 02:07
Total/NA	Prep	504.1			111631	LZ8Q	EA POM	10/03/24 13:30 - 10/03/24 15:00 <sup>1</sup>
Total/NA	Analysis	504.1		1	111828	LZ8Q	EA POM	10/04/24 02:49
Total/NA	Prep	505			111931	DR5R	EA POM	10/04/24 15:37 - 10/04/24 16:55 <sup>1</sup>
Total/NA	Analysis	505		1	111937	DR5R	EA POM	10/04/24 21:45
Total/NA	Prep	3510C			488004	H6FE	EET CAL 4	10/04/24 13:52
Total/NA	Analysis	8015B		1	488344	UJ3K	EET CAL 4	10/06/24 10:04
Total/NA	Analysis	8015B		1	487891	ZE2W	EET CAL 4	10/04/24 17:36
Total/NA	Analysis	300.0		5	112164	UNJR	EA POM	10/08/24 08:10
Total/NA	Analysis	300.0		5	111532	XLG4	EA POM	10/03/24 05:30
Total/NA	Analysis	300.0		5	111533	XLG4	EA POM	10/03/24 05:30
Total/NA	Analysis	200.7 Rev 4.4		1	111765	T8BB	EA POM	10/03/24 17:01
Total Recoverable	Prep	200.8			112515	Z45W	EA POM	10/09/24 11:37
Total Recoverable	Analysis	200.8		1	112707	AAE8	EA POM	10/09/24 20:21
Total Recoverable	Prep	200.8			112515	Z45W	EA POM	10/09/24 11:37
Total Recoverable	Analysis	200.8		1	112818	AAE8	EA POM	10/10/24 12:45
Total/NA	Prep	245.1			118741	AC	EA SB	10/14/24 13:26
Total/NA	Analysis	245.1		1	118802	AC	EA SB	10/14/24 18:40
Total/NA	Analysis	SM 2320B		1	111949	PK4Q	EA POM	10/04/24 20:57
Total/NA	Analysis	SM 2510B		1	111944	PK4Q	EA POM	10/04/24 20:57
Total/NA	Analysis	SM 2540C		1	111678	UJRF	EA POM	10/03/24 15:59
Total/NA	Analysis	SM 4500 F C		1	111954	PK4Q	EA POM	10/04/24 22:50
Total/NA	Analysis	SM 4500 H+ B		1	111946	PK4Q	EA POM	10/04/24 20:57
Total/NA	Analysis	SM 4500 S2 D		1	111870	MH2L	EA POM	10/04/24 15:49

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

**Date Collected: 10/01/24 09:55**

**Matrix: Water**

**Date Received: 10/02/24 10:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	112073	P3EE	EA POM	10/07/24 17:47
Total/NA	Analysis	524.2		1	111986	N4CJ	EA POM	10/06/24 17:21
Total/NA	Analysis	524.2		1	112043	C4WQ	EA POM	10/06/24 17:21

# Lab Chronicle

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

**Client Sample ID: TRAVEL BLANK**

**Lab Sample ID: 380-115740-2**

**Date Collected: 10/01/24 09:55**

**Matrix: Water**

**Date Received: 10/02/24 10:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	489970	A9VE	EET CAL 4	10/10/24 23:01
Total/NA	Prep	504.1			111631	LZ8Q	EA POM	10/03/24 13:30 - 10/03/24 15:00 <sup>1</sup>
Total/NA	Analysis	504.1		1	111828	LZ8Q	EA POM	10/04/24 03:32

<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

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



# Accreditation/Certification Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

## Laboratory: Eurofins Eaton Analytical Pomona

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

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

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

Analysis Method	Prep Method	Matrix	Analyte
505	505	Drinking Water	Polychlorinated biphenyls, Total
524.2		Drinking Water	1,3-Dichloropropene, Total
524.2		Drinking Water	2-Butanone (MEK)
524.2		Drinking Water	Acetone
524.2		Drinking Water	Bromodichloromethane
524.2		Drinking Water	Bromoethane
524.2		Drinking Water	Bromoform
524.2		Drinking Water	Chlorodibromomethane
524.2		Drinking Water	Chloroform (Trichloromethane)
524.2		Drinking Water	m,p Xylenes
524.2		Drinking Water	o-Xylene
524.2		Drinking Water	Tertiary Butyl Alcohol (TBA)
524.2		Water	1,3-Dichloropropene, Total
524.2		Water	2-Butanone (MEK)
524.2		Water	Acetone
524.2		Water	Bromodichloromethane
524.2		Water	Bromoethane
524.2		Water	Bromoform
524.2		Water	Chlorodibromomethane
524.2		Water	Chloroform (Trichloromethane)
524.2		Water	m,p-Xylenes
524.2		Water	o-Xylene
525.2	525.2	Drinking Water	1-Methylnaphthalene
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	2-Methylnaphthalene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha Chlordane
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Chlorobenzilate
525.2	525.2	Drinking Water	Chloroneb
525.2	525.2	Drinking Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Drinking Water	Chlorpyrifos
525.2	525.2	Drinking Water	delta-BHC
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate

# Accreditation/Certification Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

## 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	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Isophorone
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbutylazine
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
SM 2320B		Drinking Water	Bicarbonate Alkalinity as CaCO3
SM 2320B		Drinking Water	Carbonate Alkalinity as CaCO3
SM 4500 S2 D		Drinking Water	Sulfide

## Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-15-24
Arkansas DEQ	State	88-0161	07-02-25
California	Los Angeles County Sanitation Districts	9257304	07-31-26
California	SCAQMD LAP	17LA0919	11-30-24
California	State	3082	07-31-26
Kansas	NELAP	E-10420	07-31-25
Nevada	State	CA00111	07-31-25
Oregon	NELAP	4175	02-02-25
USDA	US Federal Programs	P330-22-00059	06-08-26

## 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	07-31-26
Alabama	State	40700	06-30-25
Alaska	State	IN00035	06-30-25
Arizona	State	AZ0432	07-26-25
Arkansas (DW)	State	EPA IN00035	06-30-25
California	State	2920	06-30-25
Colorado	State	IN00035	02-28-25
Connecticut	State	PH-0132	03-31-26
Delaware (DW)	State	IN00035	06-30-25
Florida	NELAP	E87775	06-30-25
Georgia (DW)	State	929	06-30-25
Guam	State	23-011R	07-15-25
Hawaii	State	IN035	06-30-25

# Accreditation/Certification Summary

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

Job ID: 380-115740-1  
 SDG: Quarterly - Halawa Wells P1

## 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
Idaho (DW)	State	IN00035	12-31-24
IL Dept. of Public Health (Micro)	State	17767	06-30-25
Illinois	NELAP	200001	09-30-25
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	06-30-25
Massachusetts	State	M-IN035	06-30-25
MI - RadChem Recognition	State	9926	03-22-25
Michigan	State	9926	03-22-25
Minnesota	NELAP	1989807	12-31-24
Mississippi	State	IN00035	06-30-25
Missouri	State	880	09-30-27
Montana (DW)	State	CERT0026	01-01-25
Nebraska	State	NE-OS-05-04	06-30-25
Nevada	State	IN000352024-01	07-31-25
New Hampshire	NELAP	2124	11-05-24
New Jersey	NELAP	IN598	06-30-25
New Mexico	State	IN00035	06-30-25
New York	NELAP	11398	04-01-25
North Carolina (DW)	State	18700	07-31-25
North Dakota	State	R-035	06-30-24 *
Northern Mariana Islands (DW)	State	IN00035	06-30-25
Ohio	State	87775	06-30-25
Oklahoma	NELAP	D9508	12-31-24
Oregon	NELAP	4156	09-16-25
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	06-30-24 *
South Dakota (DW)	State	IN00035	06-30-25
Tennessee	State	TN02973	06-30-25
Texas	NELAP	T104704187-22-16	12-31-24
Texas	TCEQ Water Supply	TX207	06-30-25
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-25
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	08-31-25
Wisconsin (Micro)	State	10121	12-31-24
Wyoming	State	8TMS-L	06-30-25

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



# Method Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

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
625.1	Semivolatile Organic Compounds (GC/MS)	EPA	EET CAL 4
625.1 SIM	Semivolatile Organic Compounds GC/MS (SIM)	EPA	EET CAL 4
8015B GRO LL	Gasoline Range Organics - (GC)	SW846	EET CAL 4
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW2	EA POM
505	Organochlorine Pesticides/PCBs (GC)	EPA	EA POM
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	EET CAL 4
8015B	Nonhalogenated Organic Compounds - Direct Injection (GC)	SW846	EET CAL 4
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
200.8	Preparation, Total Recoverable Metals	EPA	EA POM
245.1	Preparation, Mercury	EPA	EA SB
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4
504.1	Microextraction	EPA-DW	EA POM
505	Extraction, Organochlorine Pesticides/PCBs	EPA	EA POM
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
625.1	Liquid-Liquid Extraction	40CFR136A	EET CAL 4
None	Autocomplete Prep - Metals - No Digestion required	None	EA POM

## Protocol References:

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

EPA = US Environmental Protection Agency

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"

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

## Laboratory References:

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

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

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

# Sample Summary

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

Job ID: 380-115740-1  
SDG: Quarterly - Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-115740-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	10/01/24 09:55	10/02/24 10:20
380-115740-2	TRAVEL BLANK	Water	10/01/24 09:55	10/02/24 10:20

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

















941 Corporate Center Drive  
 Pomona, CA 91768-2642  
 Phone: 626-398-4400

Chain of Custody Record



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: <b>Eurofins Eaton Analytical</b>		Arada, Rachelle	Rachelle.Arada@et.eurofins.com	State of Origin: Hawaii	380-158217.1
Address: 110 S Hill Street, South Bend, IN, 46617		Due Date Requested: 10/15/2024	Accreditations Required (See note): State - Hawaii	Page: 1 of 1	Job #: 380-15740-1
City: South Bend		TAT Requested (days):	<b>Analysis Requested</b>		
State, Zip: IN, 46617		PO #:	Perform MS/MSD (Yes or No)		
Phone: 574-233-4777 (Tel) 574-233-8207 (Fax)		WO #:	245.1/245.1 Prep Mercury by 245.1		
Email: RED-HILL		Project #:	Field Filtered Sample (Yes or No)		
Project Name: RED-HILL		38001111	245.1/245.1 Prep Mercury by 245.1		
Site: Honolulu BWS Sites		SSOW#:	Total Number of containers		
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Metal, Pesticide, Oil, etc.)
HALAWA WELLS P1 (331-023-WL065) (380-115740-1)	10/1/24	09:55	Hawaiian	G	Water
Special Instructions/Note: <b>PA22 10-1-24 W0</b>		Initial Temp: 16.2 Corrected Temp: 15.6 IR Gun # 18			

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  
 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: \_\_\_\_\_ Method of Shipment: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: 10:32A 7:55 Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: 10-1-24 11:5 Company: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_  
 Custody Seals Intact:  Yes  No Custody Seal No.: \_\_\_\_\_ Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-115740-1  
SDG Number: Quarterly - Halawa Wells P1

**Login Number: 115740**

**List Number: 1**

**Creator: Gerfen, Chris**

**List Source: Eurofins Eaton Analytical Pomona**

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-115740-1  
SDG Number: Quarterly - Halawa Wells P1

**Login Number: 115740**

**List Number: 2**

**Creator: Khana, Piyush**

**List Source: Eurofins Calscience**

**List Creation: 10/03/24 01:40 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-115740-1  
SDG Number: Quarterly - Halawa Wells P1

**Login Number: 115740**  
**List Number: 3**  
**Creator: DePriest, Kellie**

**List Source: Eurofins Eaton Analytical South Bend**  
**List Creation: 10/07/24 12:20 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

