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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Erwin Kawata  
City & County of Honolulu  
630 South Beretania Street  
Public Service Bldg. Room 308  
Honolulu, Hawaii 96843

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## JOB DESCRIPTION

RED-HILL  
RUSH Weekly Red Hill

## JOB NUMBER

380-34654-1

# Eurofins Drinking Water Testing Pomona

## Job Notes

Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

Test results relate only to the sample(s) tested.

Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

## Compliance Statement

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

## Authorization



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Authorized for release by  
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# Definitions/Glossary

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

Job ID: 380-34654-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
^3-	Reporting Limit Check Standard is outside acceptance limits, low biased.
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.

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

### GC/MS Semi VOA TICs

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

### GC Semi VOA

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

### HPLC/IC

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

### Metals

Qualifier	Qualifier Description
^2	Cal bration Blank (ICB and/or CCB) is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD 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	Cal bration Blank (ICB and/or CCB) is outside acceptance limits.
B	Analyte was found in the associated method blank.
F1	MS and/or MSD recovery exceeds control limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit

# Definitions/Glossary

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

Job ID: 380-34654-1

## Glossary (Continued)

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

# Case Narrative

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

Job ID: 380-34654-1

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## Job ID: 380-34654-1

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### Laboratory: Eurofins Drinking Water Testing Pomona

#### Narrative

#### Job Narrative 380-34654-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/18/2023 10:00 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 1.1° C, 3.8° C and 4.7° C

#### Receipt Exceptions

One or more containers for the following samples were received broken or leaking: HALAWA WELLS PUMP 1 (380-34654-1) and HALAWA WELLS PUMP 1 TB (380-34654-2). 1 of 6 voa vials for 524.2 received broken.

The following samples were received with ice present in the containers. The samples and containers appeared to be intact. HALAWA WELLS PUMP 1 (380-34654-1) and HALAWA WELLS PUMP 1 TB (380-34654-2). 1 of 6 voa vials for 524.2 has ice formation.

The following samples were received with ice present in the containers. The samples and containers appeared to be intact. HALAWA WELLS PUMP 1 (380-34654-1) and HALAWA WELLS PUMP 1 TB (380-34654-2). 2 of 3 voa vials for 8015 Gas (Purgeable) has ice formation.

One or more containers for the following samples were received broken or leaking: HALAWA WELLS PUMP 1 (380-34654-1) and HALAWA WELLS PUMP 1 TB (380-34654-2). 1 of 3 vials for 524.3\_SIM received broken.

One or more containers for the following samples were received broken or leaking: HALAWA WELLS PUMP 1 (380-34654-1) and HALAWA WELLS PUMP 1 TB (380-34654-2). 1 of 2 vials for 8015 Gas (Purgeable) trip blank, received broken. Only 2 of 6 vials 524.2 trip blanks received. Only 2 of 3 vials for 504.1.

#### GC/MS VOA

Method 524.2: The method blank for batch 380-30534 contained Naphthalene above the reporting limit (RL). None of the samp associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were n performed.

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

#### GC/MS Semi VOA

Method 525.2: The matrix spike (MS) recoveries for preparation batch 380-30258 and analytical batch 380-30320 were outside control limits for analyte: Anthracene , see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity at suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

#### HPLC/IC

Method 300.0: Due to the high concentration of Chloride, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 380-30153 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 300.0: The following sample was diluted due to the nature of the sample matrix: HALAWA WELLS PUMP 1 (380-34654- 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.

# Case Narrative

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

Job ID: 380-34654-1

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## Job ID: 380-34654-1 (Continued)

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### Laboratory: Eurofins Drinking Water Testing Pomona (Continued)

#### GC Semi VOA

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

#### Metals

Method 200.8: The continuing calibration blank (CCB) for analytical batch 380-31025 contained Silver above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

#### General Chemistry

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

#### Subcontract non-Sister

See attached subcontract report.

#### Organic Prep

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

#### Subcontract Work

Methods 8015 Ethanol, 8015 Gas (Purgeable) LL (EAL), 8015 LL DRO/MRO/JP5/JP8: These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Method 625 Acid/Base/PAH + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report.



# Detection Summary

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

Job ID: 380-34654-1

## Client Sample ID: HALAWA WELLS PUMP 1

## Lab Sample ID: 380-34654-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tertiary Butyl Alcohol (TBA)	20		2.0	ug/L	1		524.2	Total/NA
Chlordane (n.o.s.)	0.25		0.10	ug/L	1		505	Total/NA
Dieldrin	0.058		0.0021	ug/L	1		505	Total/NA
Heptachlor epoxide	0.018		0.010	ug/L	1		505	Total/NA
Bromide	720		25	ug/L	5		300.0	Total/NA
Chloride	190		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	1.7		0.25	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	1.7		0.25	mg/L	5		300.0	Total/NA
Sulfate	43		1.3	mg/L	5		300.0	Total/NA
Calcium	37		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	33		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.9		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	70		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	2.1	F2 F1	1.0	ug/L	1		200.8	Total Recoverable
A kalinity	64	F1	2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	64	B ^2	2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	870	^2	2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	500		20	mg/L	1		SM 2540C	Total/NA
Fluoride	0.050		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: HALAWA WELLS PUMP 1 TB

## Lab Sample ID: 380-34654-2

No Detections.

This Detection Summary does not include radiochemical test results.



# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

**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)	20		2.0	ug/L			01/18/23 20:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 130				01/18/23 20:53	1
4-Bromofluorobenzene (Surr)	103		70 - 130				01/18/23 20:53	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130				01/18/23 20:53	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	ND		0.50	ug/L			01/25/23 08:45	1
1,1,1-Trichloroethane	ND		0.50	ug/L			01/25/23 08:45	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			01/25/23 08:45	1
1,1,2-Trichloroethane	ND		0.50	ug/L			01/25/23 08:45	1
1,1-Dichloroethylene	ND		0.50	ug/L			01/25/23 08:45	1
1,1-Dichloroethane	ND		0.50	ug/L			01/25/23 08:45	1
1,1-Dichloropropene	ND		0.50	ug/L			01/25/23 08:45	1
1,2,3-Trichlorobenzene	ND	*1	0.50	ug/L			01/25/23 08:45	1
1,2,3-Trichloropropane	ND		0.50	ug/L			01/25/23 08:45	1
1,2,4-Trichlorobenzene	ND	*1	0.50	ug/L			01/25/23 08:45	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			01/25/23 08:45	1
1,2-Dichloroethane	ND		0.50	ug/L			01/25/23 08:45	1
1,2-Dichloropropane	ND		0.50	ug/L			01/25/23 08:45	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			01/25/23 08:45	1
1,3-Dichloropropane	ND		0.50	ug/L			01/25/23 08:45	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			01/25/23 08:45	1
2,2-Dichloropropane	ND		0.50	ug/L			01/25/23 08:45	1
2-Butanone (MEK)	ND		5.0	ug/L			01/25/23 08:45	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			01/26/23 00:38	1
Acetone	ND		500	ug/L			01/30/23 16:07	1
Benzene	ND		0.50	ug/L			01/25/23 08:45	1
Bromobenzene	ND		0.50	ug/L			01/25/23 08:45	1
Bromochloromethane	ND		0.50	ug/L			01/25/23 08:45	1
Bromodichloromethane	ND		0.50	ug/L			01/25/23 08:45	1
Bromoethane	ND		0.50	ug/L			01/25/23 08:45	1
Bromoform	ND		0.50	ug/L			01/25/23 08:45	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			01/25/23 08:45	1
Carbon disulfide	ND		0.50	ug/L			01/25/23 08:45	1
Carbon tetrachloride	ND		0.50	ug/L			01/25/23 08:45	1
Chlorobenzene	ND		0.50	ug/L			01/25/23 08:45	1
Chlorodibromomethane	ND		0.50	ug/L			01/25/23 08:45	1
Chloroethane	ND		0.50	ug/L			01/25/23 08:45	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			01/25/23 08:45	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			01/25/23 08:45	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 08:45	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 08:45	1
Dibromomethane	ND		0.50	ug/L			01/25/23 08:45	1
Dichlorodifluoromethane	ND		0.50	ug/L			01/25/23 08:45	1
Dichloromethane	ND		0.50	ug/L			01/25/23 08:45	1
Diisopropyl ether	ND		3.0	ug/L			01/25/23 08:45	1
Ethylbenzene	ND		0.50	ug/L			01/25/23 08:45	1

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		0.50	ug/L			01/25/23 08:45	1
Isopropyl benzene	ND		0.50	ug/L			01/25/23 08:45	1
m,p-Xylenes	ND		0.50	ug/L			01/25/23 08:45	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			01/25/23 08:45	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			01/25/23 08:45	1
Naphthalene	ND	B *1	0.50	ug/L			01/25/23 08:45	1
n-Butylbenzene	ND	*1	0.50	ug/L			01/25/23 08:45	1
N-Propylbenzene	ND		0.50	ug/L			01/25/23 08:45	1
o-Chlorotoluene	ND		0.50	ug/L			01/25/23 08:45	1
o-Dichlorobenzene (1,2-DCB)	ND	*1	0.50	ug/L			01/25/23 08:45	1
o-Xylene	ND		0.50	ug/L			01/25/23 08:45	1
p-Chlorotoluene	ND		0.50	ug/L			01/25/23 08:45	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			01/25/23 08:45	1
p-Isopropyltoluene	ND		0.50	ug/L			01/25/23 08:45	1
sec-Butylbenzene	ND		0.50	ug/L			01/25/23 08:45	1
Styrene	ND		0.50	ug/L			01/25/23 08:45	1
Tert-amyl methyl ether	ND		3.0	ug/L			01/25/23 08:45	1
Tert-butyl ethyl ether	ND		3.0	ug/L			01/25/23 08:45	1
tert-Butylbenzene	ND		0.50	ug/L			01/25/23 08:45	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			01/25/23 08:45	1
Toluene	ND		0.50	ug/L			01/25/23 08:45	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 08:45	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 08:45	1
Trichloroethylene (TCE)	ND		0.50	ug/L			01/25/23 08:45	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			01/25/23 08:45	1
Trichlorotrifluoroethane	ND		0.50	ug/L			01/25/23 08:45	1
Vinyl Chloride (VC)	ND		0.30	ug/L			01/25/23 08:45	1
Xylenes, Total	ND		0.50	ug/L			01/25/23 08:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	19	T J	ug/L		0.98	N/A		01/25/23 08:45	1
Unknown	15	T J	ug/L		0.98	N/A		01/30/23 16:07	1
Unknown	22	T J	ug/L		0.99	N/A		01/26/23 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		01/25/23 08:45	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		01/26/23 00:38	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		01/30/23 16:07	1
4-Bromofluorobenzene (Surr)	96		70 - 130		01/25/23 08:45	1
4-Bromofluorobenzene (Surr)	120		70 - 130		01/26/23 00:38	1
4-Bromofluorobenzene (Surr)	108		70 - 130		01/30/23 16:07	1
Toluene-d8 (Surr)	87		70 - 130		01/25/23 08:45	1
Toluene-d8 (Surr)	90		70 - 130		01/26/23 00:38	1
Toluene-d8 (Surr)	86		70 - 130		01/30/23 16:07	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
2,4'-DDE	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
2,4'-DDT	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrotoluene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
2,6-Dinitrotoluene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
4,4'-DDD	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
4,4'-DDE	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
4,4'-DDT	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Acenaphthene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Acenaphthylene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Acetochlor	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Alachlor	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
alpha-BHC	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
alpha-Chlordane	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Anthracene	ND	F1	0.020	ug/L		01/20/23 05:58	01/20/23 17:05	1
Atrazine	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Benz(a)anthracene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Benzo[a]pyrene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 17:05	1
Benzo[b]fluoranthene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 17:05	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Benzo[k]fluoranthene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 17:05	1
beta-BHC	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		01/20/23 05:58	01/20/23 17:05	1
Bromacil	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Butachlor	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Butylbenzylphthalate	ND		0.50	ug/L		01/20/23 05:58	01/20/23 17:05	1
Chlorobenzilate	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Chloroneb	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Chlorothalonil (Draconil, Bravo)	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Chlorpyrifos	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Chrysene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 17:05	1
delta-BHC	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Di(2-ethylhexyl)adipate	ND	^3+	0.60	ug/L		01/20/23 05:58	01/20/23 17:05	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Diclorvos (DDVP)	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Dieldrin	ND		0.20	ug/L		01/20/23 05:58	01/20/23 17:05	1
Diethylphthalate	ND		0.50	ug/L		01/20/23 05:58	01/20/23 17:05	1
Dimethylphthalate	ND		0.50	ug/L		01/20/23 05:58	01/20/23 17:05	1
Di-n-butyl phthalate	ND		1.0	ug/L		01/20/23 05:58	01/20/23 17:05	1
Di-n-octyl phthalate	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Endosulfan I (Alpha)	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Endosulfan II (Beta)	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Endosulfan sulfate	ND	F1	0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Endrin	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Endrin aldehyde	ND	^3+	0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
EPTC	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Fluoranthene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Fluorene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
gamma-BHC (Lindane)	ND		0.040	ug/L		01/20/23 05:58	01/20/23 17:05	1
gamma-Chlordane	ND	^3+	0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Heptachlor	ND		0.040	ug/L		01/20/23 05:58	01/20/23 17:05	1
Heptachlor epoxide (isomer B)	ND	^3+	0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Isophorone	ND		0.50	ug/L		01/20/23 05:58	01/20/23 17:05	1
Malathion	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Methoxychlor	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Metolachlor	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Metribuzin	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Molinate	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Naphthalene	ND		0.30	ug/L		01/20/23 05:58	01/20/23 17:05	1
Parathion	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Pendimethalin (Penoxaline)	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Phenanthrene	ND		0.040	ug/L		01/20/23 05:58	01/20/23 17:05	1
Propachlor	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Pyrene	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Simazine	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Terbacil	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Terbutylazine	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
Thiobencarb	ND		0.20	ug/L		01/20/23 05:58	01/20/23 17:05	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		01/20/23 05:58	01/20/23 17:05	1
trans-Nonachlor	ND		0.050	ug/L		01/20/23 05:58	01/20/23 17:05	1
Trifluralin	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
1-Methylnaphthalene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1
2-Methylnaphthalene	ND		0.10	ug/L		01/20/23 05:58	01/20/23 17:05	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	01/20/23 05:58	01/20/23 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	99		70 - 130	01/20/23 05:58	01/20/23 17:05	1
Perylene-d12	94		70 - 130	01/20/23 05:58	01/20/23 17:05	1
Triphenylphosphate	107		70 - 130	01/20/23 05:58	01/20/23 17:05	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	ND		0.041	ug/L		01/23/23 14:25	01/23/23 19:13	1
1,2-D bromo-3-Chloropropane	ND		0.010	ug/L		01/23/23 14:25	01/23/23 19:13	1
1,2-D bromoethane	ND		0.010	ug/L		01/23/23 14:25	01/23/23 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	110		60 - 140	01/23/23 14:25	01/23/23 19:13	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
Aldrin	ND		0.0021	ug/L		01/20/23 14:15	01/20/23 19:33	1
Chlordane (n.o.s.)	0.25		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
Dieldrin	0.058		0.0021	ug/L		01/20/23 14:15	01/20/23 19:33	1
Endrin	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:33	1
gamma-BHC (Lindane)	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:33	1
Heptachlor	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:33	1

Eurofins Drinking Water Testing Pomona

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Heptachlor epoxide</b>	<b>0.018</b>		0.010	ug/L		01/20/23 14:15	01/20/23 19:33	1
Methoxychlor	ND		0.051	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1016	ND		0.072	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1221	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1232	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1242	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1248	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1254	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
PCB-1260	ND		0.072	ug/L		01/20/23 14:15	01/20/23 19:33	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
Toxaphene	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:33	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tetrachloro-m-xylene	97		70 - 130			01/20/23 14:15	01/20/23 19:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>720</b>		25	ug/L			01/25/23 21:00	5
<b>Chloride</b>	<b>190</b>		2.5	mg/L			01/18/23 18:04	5
<b>Nitrate as N</b>	<b>1.7</b>		0.25	mg/L			01/18/23 18:04	5
<b>Nitrate Nitrite as N</b>	<b>1.7</b>		0.25	mg/L			01/18/23 18:04	5
<b>Sulfate</b>	<b>43</b>		1.3	mg/L			01/18/23 18:04	5
Nitrite as N	ND		0.25	mg/L			01/18/23 18:04	5

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>37</b>		1.0	mg/L			02/01/23 15:09	1
<b>Magnesium</b>	<b>33</b>		0.10	mg/L			02/01/23 15:09	1
<b>Potassium</b>	<b>3.9</b>		1.0	mg/L			02/01/23 15:09	1
<b>Sodium</b>	<b>70</b>		1.0	mg/L			02/01/23 15:09	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	F2 F1	1.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Arsenic	ND	F2 F1	1.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Beryllium	ND	F2 F1	1.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Cadmium	ND	F2 F1	0.50	ug/L		01/25/23 16:44	01/26/23 16:58	1
<b>Chromium</b>	<b>2.1</b>	<b>F2 F1</b>	1.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Copper	ND	F2 F1	2.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Lead	ND	F2 F1	0.50	ug/L		01/25/23 16:44	01/26/23 16:58	1
Nickel	ND	F2 F1	5.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Selenium	ND	F2 F1	5.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Silver	ND	F2 F1 ^2	0.50	ug/L		01/25/23 16:44	01/26/23 16:58	1
Thallium	ND	F2 F1	1.0	ug/L		01/25/23 16:44	01/26/23 16:58	1
Zinc	ND	F2 F1	20	ug/L		01/25/23 16:44	01/26/23 16:58	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.10	ug/L		01/20/23 16:44	01/20/23 19:59	1

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

## General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	64	F1	2.0	mg/L			01/19/23 15:29	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	64	B ^2	2.0	mg/L			01/19/23 15:29	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		2.0	mg/L			01/19/23 15:29	1
Specific Conductance (SM 2510B)	870	^2	2.0	umhos/cm			01/19/23 15:29	1
Total Dissolved Solids (SM 2540C)	500		20	mg/L			01/20/23 16:04	1
Fluoride (SM 4500 F C)	0.050		0.050	mg/L			01/19/23 14:32	1
pH (SM 4500 H+ B)	7.7	HF		SU			01/19/23 15:29	1
Sulfide (SM 4500 S2 D)	ND		0.050	mg/L			01/24/23 12:17	1

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Chlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Methylphenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Nitroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
2-Nitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
3-Nitroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
4-Chloroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
4-Nitroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
4-Nitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Acenaphthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Aniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzidine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

**Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzoic Acid	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
Biphenyl	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Chrysene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Dibenzofuran	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Fluorene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Hexachloroethane	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Naphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Nitrobenzene	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Pentachlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Phenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1
Phenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 23:46	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 23:46	1
Pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	90		31 - 143	01/20/23 00:00	02/13/23 23:46	1
(d10-Acenaphthene)	101		27 - 133	01/20/23 00:00	02/13/23 23:46	1
(d10-Phenanthrene)	97		43 - 129	01/20/23 00:00	02/13/23 23:46	1
(d12-Chrysene)	100		52 - 144	01/20/23 00:00	02/13/23 23:46	1
(d12-Perylene)	97		36 - 161	01/20/23 00:00	02/13/23 23:46	1
(d5-Phenol)	21		0 - 85	01/20/23 00:00	02/13/23 23:46	1
(d8-Naphthalene)	91		25 - 125	01/20/23 00:00	02/13/23 23:46	1

**Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			01/20/23 14:42	1

**Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			01/20/23 03:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	79		60 - 140		01/20/23 03:05	1

**Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			01/24/23 22:22	1

Eurofins Drinking Water Testing Pomona

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

**Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
JP5	ND	U	0.048		mg/L			01/24/23 22:22	1
JP8	ND	U	0.048		mg/L			01/24/23 22:22	1
MOTOR OIL	ND	U	0.048		mg/L			01/24/23 22:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	94		60 - 130					01/24/23 22:22	1
HEXACOSANE	119		60 - 130					01/24/23 22:22	1

**Client Sample ID: HALAWA WELLS PUMP 1 TB**

**Lab Sample ID: 380-34654-2**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

**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)	ND		2.0	ug/L			01/18/23 21:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		70 - 130				01/18/23 21:16	1
4-Bromofluorobenzene (Surr)	104		70 - 130				01/18/23 21:16	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 130				01/18/23 21:16	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	ND		0.50	ug/L			01/25/23 09:06	1
1,1,1-Trichloroethane	ND		0.50	ug/L			01/25/23 09:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			01/25/23 09:06	1
1,1,2-Trichloroethane	ND		0.50	ug/L			01/25/23 09:06	1
1,1-Dichloroethane	ND		0.50	ug/L			01/25/23 09:06	1
1,1-Dichloroethylene	ND		0.50	ug/L			01/25/23 09:06	1
1,1-Dichloropropene	ND		0.50	ug/L			01/25/23 09:06	1
1,2,3-Trichlorobenzene	ND	*1	0.50	ug/L			01/25/23 09:06	1
1,2,3-Trichloropropane	ND		0.50	ug/L			01/25/23 09:06	1
1,2,4-Trichlorobenzene	ND	*1	0.50	ug/L			01/25/23 09:06	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			01/25/23 09:06	1
1,2-Dichloroethane	ND		0.50	ug/L			01/25/23 09:06	1
1,2-Dichloropropane	ND		0.50	ug/L			01/25/23 09:06	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			01/25/23 09:06	1
1,3-Dichloropropane	ND		0.50	ug/L			01/25/23 09:06	1
2,2-Dichloropropane	ND		0.50	ug/L			01/25/23 09:06	1
2-Butanone (MEK)	ND		5.0	ug/L			01/25/23 09:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			01/26/23 01:20	1
Acetone	ND		500	ug/L			01/30/23 15:16	1
Benzene	ND		0.50	ug/L			01/25/23 09:06	1
Bromobenzene	ND		0.50	ug/L			01/25/23 09:06	1
Bromochloromethane	ND		0.50	ug/L			01/25/23 09:06	1
Bromodichloromethane	ND		0.50	ug/L			01/25/23 09:06	1
Bromoform	ND		0.50	ug/L			01/25/23 09:06	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			01/25/23 09:06	1
Carbon disulfide	ND		0.50	ug/L			01/25/23 09:06	1
Carbon tetrachloride	ND		0.50	ug/L			01/25/23 09:06	1
Chlorobenzene	ND		0.50	ug/L			01/25/23 09:06	1

Eurofins Drinking Water Testing Pomona



# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1 TB**

**Lab Sample ID: 380-34654-2**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	ND		0.50	ug/L			01/25/23 09:06	1
Chloroethane	ND		0.50	ug/L			01/25/23 09:06	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			01/25/23 09:06	1
Dichloromethane	ND		0.50	ug/L			01/25/23 09:06	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 09:06	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 09:06	1
Dibromomethane	ND		0.50	ug/L			01/25/23 09:06	1
Dichlorodifluoromethane	ND		0.50	ug/L			01/25/23 09:06	1
Ethylbenzene	ND		0.50	ug/L			01/25/23 09:06	1
Hexachlorobutadiene	ND		0.50	ug/L			01/25/23 09:06	1
Isopropyl benzene	ND		0.50	ug/L			01/25/23 09:06	1
m,p-Xylenes	ND		0.50	ug/L			01/25/23 09:06	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			01/25/23 09:06	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			01/25/23 09:06	1
Naphthalene	ND	B *1	0.50	ug/L			01/25/23 09:06	1
n-Butylbenzene	ND	*1	0.50	ug/L			01/25/23 09:06	1
N-Propylbenzene	ND		0.50	ug/L			01/25/23 09:06	1
o-Dichlorobenzene (1,2-DCB)	ND	*1	0.50	ug/L			01/25/23 09:06	1
o-Chlorotoluene	ND		0.50	ug/L			01/25/23 09:06	1
o-Xylene	ND		0.50	ug/L			01/25/23 09:06	1
p-Chlorotoluene	ND		0.50	ug/L			01/25/23 09:06	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			01/25/23 09:06	1
p-Isopropyltoluene	ND		0.50	ug/L			01/25/23 09:06	1
sec-Butylbenzene	ND		0.50	ug/L			01/25/23 09:06	1
Styrene	ND		0.50	ug/L			01/25/23 09:06	1
Tert-amyl methyl ether	ND		3.0	ug/L			01/25/23 09:06	1
Tert-butyl ethyl ether	ND		3.0	ug/L			01/25/23 09:06	1
tert-Butylbenzene	ND		0.50	ug/L			01/25/23 09:06	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			01/25/23 09:06	1
Toluene	ND		0.50	ug/L			01/25/23 09:06	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			01/25/23 09:06	1
Xylenes, Total	ND		0.50	ug/L			01/25/23 09:06	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 09:06	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 09:06	1
Trichloroethylene (TCE)	ND		0.50	ug/L			01/25/23 09:06	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			01/25/23 09:06	1
Vinyl Chloride (VC)	ND		0.30	ug/L			01/25/23 09:06	1
Trichlorotrifluoroethane	ND		0.50	ug/L			01/25/23 09:06	1
Bromoethane	ND		0.50	ug/L			01/25/23 09:06	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			01/25/23 09:06	1
Diisopropyl ether	ND		3.0	ug/L			01/25/23 09:06	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.4	T J	ug/L		0.98	N/A		01/25/23 09:06	1
Unknown	7.0	T J	ug/L		0.99	N/A		01/26/23 01:20	1
Unknown	9.3	T J	ug/L		0.99	N/A		01/30/23 15:16	1
Acetaldehyde	2.6	T J N	ug/L		1.42	75-07-0		01/25/23 09:06	1
Acetaldehyde	2.6	T J N	ug/L		1.43	75-07-0		01/26/23 01:20	1
Unknown	8.2	T J	ug/L		1.43	N/A		01/30/23 15:16	1
3-Furaldehyde	3.8	T J N	ug/L		9.76	498-60-2		01/25/23 09:06	1

Eurofins Drinking Water Testing Pomona

# Client Sample Results

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1 TB**

**Lab Sample ID: 380-34654-2**

Date Collected: 01/17/23 10:37

Matrix: Water

Date Received: 01/18/23 10:00

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Furfural	2.9	T J N	ug/L		9.76	98-01-1		01/26/23 01:20	1
Furfural	7.7	T J N	ug/L		9.77	98-01-1		01/30/23 15:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130					01/25/23 09:06	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 130					01/26/23 01:20	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 130					01/30/23 15:16	1
4-Bromofluorobenzene (Surr)	99		70 - 130					01/25/23 09:06	1
4-Bromofluorobenzene (Surr)	116		70 - 130					01/26/23 01:20	1
4-Bromofluorobenzene (Surr)	99		70 - 130					01/30/23 15:16	1
Toluene-d8 (Surr)	87		70 - 130					01/25/23 09:06	1
Toluene-d8 (Surr)	91		70 - 130					01/26/23 01:20	1
Toluene-d8 (Surr)	86		70 - 130					01/30/23 15:16	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	ND		0.040	ug/L		01/23/23 14:25	01/23/23 20:26	1
1,2-D bromo-3-Chloropropane	ND		0.010	ug/L		01/23/23 14:25	01/23/23 20:26	1
1,2-D bromoethane	ND		0.010	ug/L		01/23/23 14:25	01/23/23 20:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	116		60 - 140			01/23/23 14:25	01/23/23 20:26	1

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			01/20/23 03:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	77		60 - 140					01/20/23 03:41	1

# Action Limit Summary

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

Job ID: 380-34654-1

Client Sample ID: HALAWA WELLS PUMP 1

Lab Sample ID: 380-34654-1

## 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	EPAMCL	EPAMCL	Method	Prep Type
				Limit	Limit	S Limit		
1,1,1-Trichloroethane	ND		ug/L	200.0	200		524.2	Total/NA
1,1,2-Trichloroethane	ND		ug/L	5.000	5		524.2	Total/NA
1,1-Dichloroethylene	ND		ug/L	7.000	7		524.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L				524.2	Total/NA
1,2,4-Trichlorobenzene	ND	*1	ug/L	70.00	70		524.2	Total/NA
1,2-Dichloroethane	ND		ug/L	5.000	5		524.2	Total/NA
1,2-Dichloropropane	ND		ug/L	5.000	5		524.2	Total/NA
Benzene	ND		ug/L	5.000	5		524.2	Total/NA
Carbon tetrachloride	ND		ug/L	5.000	5		524.2	Total/NA
Chlorobenzene	ND		ug/L	100.0	100		524.2	Total/NA
cis-1,2-Dichloroethylene	ND		ug/L	70.00	70		524.2	Total/NA
Dichloromethane	ND		ug/L	5.000	5		524.2	Total/NA
Ethylbenzene	ND		ug/L	700.0	700		524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	ND	*1	ug/L	600.0	600		524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	ND		ug/L	75.000	75		524.2	Total/NA
Styrene	ND		ug/L	100.0	100		524.2	Total/NA
Tetrachloroethene (PCE)	ND		ug/L	5.000	5		524.2	Total/NA
Toluene	ND		ug/L	1000	1000		524.2	Total/NA
trans-1,2-Dichloroethylene	ND		ug/L	100.0	100		524.2	Total/NA
Trichloroethylene (TCE)	ND		ug/L	5.000	5		524.2	Total/NA
Vinyl Chloride (VC)	ND		ug/L	2.000	2		524.2	Total/NA
Xylenes, Total	ND		ug/L	10000	10000		524.2	Total/NA
Alachlor	ND		ug/L		2		525.2	Total/NA
Atrazine	ND		ug/L		3		525.2	Total/NA
Benzo[a]pyrene	ND		ug/L		0.2		525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L		6		525.2	Total/NA
Di(2-ethylhexyl)adipate	ND	^3+	ug/L		400		525.2	Total/NA
Endrin	ND		ug/L		2		525.2	Total/NA
gamma-BHC (Lindane)	ND		ug/L		0.2		525.2	Total/NA
Heptachlor	ND		ug/L		0.4		525.2	Total/NA
Heptachlor epoxide (isomer B)	ND	^3+	ug/L		0.2		525.2	Total/NA
Hexachlorobenzene	ND		ug/L		1		525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L		50		525.2	Total/NA
Methoxychlor	ND		ug/L		40		525.2	Total/NA
Simazine	ND		ug/L		4		525.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L				504.1	Total/NA
1,2-D bromo-3-Chloropropane	ND		ug/L		0.2		504.1	Total/NA
1,2-D bromoethane	ND		ug/L		0.05		504.1	Total/NA
Alachlor	ND		ug/L		2		505	Total/NA
Endrin	ND		ug/L		2		505	Total/NA
gamma-BHC (Lindane)	ND		ug/L		0.2		505	Total/NA
Heptachlor	ND		ug/L		0.4		505	Total/NA
Heptachlor epoxide	0.018		ug/L		0.2		505	Total/NA
Methoxychlor	ND		ug/L		40		505	Total/NA
Polychlorinated biphenyls, Total	ND		ug/L		0.5		505	Total/NA
Toxaphene	ND		ug/L		3		505	Total/NA
Chloride	190		mg/L			250	300.0	Total/NA
Nitrate as N	1.7		mg/L		10		300.0	Total/NA

Eurofins Drinking Water Testing Pomona

# Action Limit Summary

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

Job ID: 380-34654-1

## Client Sample ID: HALAWA WELLS PUMP 1 (Continued)

Lab Sample ID: 380-34654-1

### 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
Nitrate Nitrite as N	1.7		mg/L		10		300.0	Total/NA
Sulfate	43		mg/L			250	300.0	Total/NA
Nitrite as N	ND		mg/L		1		300.0	Total/NA
Mercury	ND		ug/L		2		245.1	Total/NA
Total Dissolved Solids	500		mg/L			500	SM 2540C	Total/NA
Fluoride	0.050		mg/L		4	2	SM 4500 F C	Total/NA

## Client Sample ID: HALAWA WELLS PUMP 1 TB

Lab Sample ID: 380-34654-2

### 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
1,1,1-Trichloroethane	ND		ug/L	200.0	200	0.50	524.2	Total/NA
1,1,2-Trichloroethane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
1,1-Dichloroethylene	ND		ug/L	7.000	7	0.50	524.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L			0.50	524.2	Total/NA
1,2,4-Trichlorobenzene	ND	*1	ug/L	70.00	70	0.50	524.2	Total/NA
1,2-Dichloroethane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
1,2-Dichloropropane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Benzene	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Carbon tetrachloride	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Chlorobenzene	ND		ug/L	100.0	100	0.50	524.2	Total/NA
Dichloromethane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
cis-1,2-Dichloroethylene	ND		ug/L	70.00	70	0.50	524.2	Total/NA
Ethylbenzene	ND		ug/L	700.0	700	0.50	524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	ND	*1	ug/L	600.0	600	0.50	524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	ND		ug/L	75.000	75	0.50	524.2	Total/NA
Styrene	ND		ug/L	100.0	100	0.50	524.2	Total/NA
Tetrachloroethene (PCE)	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Toluene	ND		ug/L	1000	1000	0.50	524.2	Total/NA
Xylenes, Total	ND		ug/L	10000	10000	0.50	524.2	Total/NA
trans-1,2-Dichloroethylene	ND		ug/L	100.0	100	0.50	524.2	Total/NA
Trichloroethylene (TCE)	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Vinyl Chloride (VC)	ND		ug/L	2.000	2	0.30	524.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L			0.040	504.1	Total/NA
1,2-D bromo-3-Chloropropane	ND		ug/L		0.2	0.010	504.1	Total/NA
1,2-D bromoethane	ND		ug/L		0.05	0.010	504.1	Total/NA

# Surrogate Summary

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

Job ID: 380-34654-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (70-130)	DCA (70-130)
380-34654-1	HALAWA WELLS PUMP 1	96	103	101
380-34654-2	HALAWA WELLS PUMP 1 TB	96	104	104
LCS 380-30110/8	Lab Control Sample	98	98	101
LCSD 380-30110/9	Lab Control Sample Dup	97	99	102
MB 380-30110/11	Method Blank	98	104	105

**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 380-30110/10	Lab Control Sample	97	106	100

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (70-130)	BFB (70-130)	TOL (70-130)
380-34654-1	HALAWA WELLS PUMP 1	105	96	87
380-34654-1	HALAWA WELLS PUMP 1	109	120	90
380-34654-1	HALAWA WELLS PUMP 1	101	108	86
380-34654-2	HALAWA WELLS PUMP 1 TB	104	99	87
380-34654-2	HALAWA WELLS PUMP 1 TB	113	116	91
380-34654-2	HALAWA WELLS PUMP 1 TB	108	99	86
LCS 380-30532/4	Lab Control Sample	99	104	106
LCS 380-30534/3	Lab Control Sample	95	94	104
LCS 380-30675/11	Lab Control Sample	98	108	99
LCS 380-30956/4	Lab Control Sample	99	99	102
LCSD 380-30532/5	Lab Control Sample Dup	97	101	103
LCSD 380-30534/4	Lab Control Sample Dup	99	108	104
LCSD 380-30675/12	Lab Control Sample Dup	96	101	100
LCSD 380-30956/5	Lab Control Sample Dup	96	98	100
MB 380-30532/8	Method Blank	103	97	87
MB 380-30534/5	Method Blank	102	96	87
MB 380-30675/15	Method Blank	111	107	92
MB 380-30956/8	Method Blank	101	92	79
MRL 380-30532/3	Lab Control Sample	103	98	92
MRL 380-30532/7	Lab Control Sample	89	130	93
MRL 380-30675/10	Lab Control Sample	97	99	92

# Surrogate Summary

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

Job ID: 380-34654-1

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

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)
MRL 380-30675/14	Lab Control Sample	96	130	97
MRL 380-30956/3	Lab Control Sample	99	104	89
MRL 380-30956/7	Lab Control Sample	102	97	91

#### 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: 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)
380-34654-1	HALAWA WELLS PUMP 1	99	94	107
380-34654-1 MS	HALAWA WELLS PUMP 1	100	99	108
380-34720-V-2-A DU	Duplicate	99	97	112
LCS 380-30258/3-A	Lab Control Sample	97	95	108
LCSD 380-30258/4-A	Lab Control Sample Dup	99	97	107
MB 380-30258/1-A	Method Blank	101	93	105
MRL 380-30258/2-A	Lab Control Sample	100	91	109

#### Surrogate Legend

2NMX = 2-Nitro-m-xylene

PRY = Perylene-d12

TPP = Triphenylphosphate

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBPP1 (60-140)
380-34654-1	HALAWA WELLS PUMP 1	110
380-34654-1 MS	HALAWA WELLS PUMP 1	109
380-34654-2	HALAWA WELLS PUMP 1 TB	116
380-34654-2 DU	HALAWA WELLS PUMP 1 TB	111
LCS 380-30432/3-A	Lab Control Sample	110
MBL 380-30432/4-A	Method Blank	105
MRL 380-30432/1-A	Lab Control Sample	113
MRL 380-30432/2-A	Lab Control Sample	112

#### Surrogate Legend

DBPP = 1,2-D bromopropane (Surr)

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (70-130)
380-34454-P-1-A MS	Matrix Spike	99

# Surrogate Summary

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

Job ID: 380-34654-1

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (70-130)
380-34454-Q-1-A MS	Matrix Spike	91
380-34654-1	HALAWA WELLS PUMP 1	97
380-34654-1 MS	HALAWA WELLS PUMP 1	99
380-34654-1 MS	HALAWA WELLS PUMP 1	94
MB 380-30329/7-A	Method Blank	101
MRL 380-30329/2-A	Lab Control Sample	94
MRL 380-30329/3-A	Lab Control Sample	100
MRL 380-30329/4-A	Lab Control Sample	99
MRL 380-30329/5-A	Lab Control Sample	94
MRL 380-30329/6-A	Lab Control Sample	93

#### Surrogate Legend

TCX = Tetrachloro-m-xylene

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PHL (0-130)	PRY (36-161)	TBP (30-130)
103730-B1	Method Blank	98	97	104	86	76	96	93
103730-BS1	Lab Control Sample	93	93	102	80	82	95	108
103730-BS2	Lab Control Sample Dup	96	96	105	93	95	92	107

#### Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PHL = (d5-Phenol)

PRY = (d12-Perylene)

TBP = (2,4,6-Tribromophenol)

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PHL (0-85)	PRY (36-161)	TBP (31-143)
380-34654-1	HALAWA WELLS PUMP 1	101	97	100	91	21	97	90

#### Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PHL = (d5-Phenol)

PRY = (d12-Perylene)

TBP = (2,4,6-Tribromophenol)

# Surrogate Summary

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

Job ID: 380-34654-1

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
23VG39A08B	Method Blank	

**Surrogate Legend**  
 BFB = BROMOFLUOROBENZENE

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
23VG39A08C	LCD	104
23VG39A08L	Lab Control Sample	102

**Surrogate Legend**  
 BFB = BROMOFLUOROBENZENE

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-34654-1	HALAWA WELLS PUMP 1	79
380-34654-2	HALAWA WELLS PUMP 1 TB	77

**Surrogate Legend**  
 BFB = BROMOFLUOROBENZENE

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
23DSA029WB	Method Blank		

**Surrogate Legend**  
 BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23DSA029WL	Lab Control Sample	102	115
23J5A029WL	Lab Control Sample	103	115
23J8A029WL	Lab Control Sample	105	120

**Surrogate Legend**  
 BB = BROMOBENZENE  
 HEXACOSANE = HEXACOSANE



# Surrogate Summary

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

Job ID: 380-34654-1

**Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	HEXACOSANE (60-130)
380-34654-1	HALAWA WELLS PUMP 1	94	119

### Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30532/8**  
**Matrix: Water**  
**Analysis Batch: 30532**

**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	ND		0.50	ug/L			01/24/23 14:47	1
1,1,1-Trichloroethane	ND		0.50	ug/L			01/24/23 14:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			01/24/23 14:47	1
1,1,2-Trichloroethane	ND		0.50	ug/L			01/24/23 14:47	1
1,1-Dichloroethane	ND		0.50	ug/L			01/24/23 14:47	1
1,1-Dichlorethylene	ND		0.50	ug/L			01/24/23 14:47	1
1,1-Dichloropropene	ND		0.50	ug/L			01/24/23 14:47	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			01/24/23 14:47	1
1,2,3-Trichloropropane	ND		0.50	ug/L			01/24/23 14:47	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			01/24/23 14:47	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			01/24/23 14:47	1
1,2-Dichloroethane	ND		0.50	ug/L			01/24/23 14:47	1
1,2-Dichloropropane	ND		0.50	ug/L			01/24/23 14:47	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			01/24/23 14:47	1
1,3-Dichloropropane	ND		0.50	ug/L			01/24/23 14:47	1
2,2-Dichloropropane	ND		0.50	ug/L			01/24/23 14:47	1
2-Butanone (MEK)	ND		5.0	ug/L			01/24/23 14:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			01/24/23 14:47	1
Acetone	ND		500	ug/L			01/24/23 14:47	1
Benzene	ND		0.50	ug/L			01/24/23 14:47	1
Bromobenzene	ND		0.50	ug/L			01/24/23 14:47	1
Bromochloromethane	ND		0.50	ug/L			01/24/23 14:47	1
Bromodichloromethane	ND		0.50	ug/L			01/24/23 14:47	1
Bromoform	ND		0.50	ug/L			01/24/23 14:47	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			01/24/23 14:47	1
Carbon disulfide	ND		0.50	ug/L			01/24/23 14:47	1
Carbon tetrachloride	ND		0.50	ug/L			01/24/23 14:47	1
Chlorobenzene	ND		0.50	ug/L			01/24/23 14:47	1
Chlorodibromomethane	ND		0.50	ug/L			01/24/23 14:47	1
Chloroethane	ND		0.50	ug/L			01/24/23 14:47	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			01/24/23 14:47	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			01/24/23 14:47	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/24/23 14:47	1
Dibromomethane	ND		0.50	ug/L			01/24/23 14:47	1
Dichlorodifluoromethane	ND		0.50	ug/L			01/24/23 14:47	1
Dichloromethane	ND		0.50	ug/L			01/24/23 14:47	1
Ethylbenzene	ND		0.50	ug/L			01/24/23 14:47	1
Hexachlorobutadiene	ND		0.50	ug/L			01/24/23 14:47	1
Isopropy benzene	ND		0.50	ug/L			01/24/23 14:47	1
m,p-Xylenes	ND		0.50	ug/L			01/24/23 14:47	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			01/24/23 14:47	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			01/24/23 14:47	1
Naphthalene	ND		0.50	ug/L			01/24/23 14:47	1
n-Butylbenzene	ND		0.50	ug/L			01/24/23 14:47	1
N-Propylbenzene	ND		0.50	ug/L			01/24/23 14:47	1
o-Chlorotoluene	ND		0.50	ug/L			01/24/23 14:47	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			01/24/23 14:47	1
o-Xylene	ND		0.50	ug/L			01/24/23 14:47	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30532/8**  
**Matrix: Water**  
**Analysis Batch: 30532**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		0.50	ug/L			01/24/23 14:47	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			01/24/23 14:47	1
p-Isopropyltoluene	ND		0.50	ug/L			01/24/23 14:47	1
sec-Butylbenzene	ND		0.50	ug/L			01/24/23 14:47	1
Styrene	ND		0.50	ug/L			01/24/23 14:47	1
Tert-amyl methyl ether	ND		3.0	ug/L			01/24/23 14:47	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			01/24/23 14:47	1
Tert-butyl ethyl ether	ND		3.0	ug/L			01/24/23 14:47	1
tert-Butylbenzene	ND		0.50	ug/L			01/24/23 14:47	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			01/24/23 14:47	1
Toluene	ND		0.50	ug/L			01/24/23 14:47	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			01/24/23 14:47	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/24/23 14:47	1
Trichloroethylene (TCE)	ND		0.50	ug/L			01/24/23 14:47	1
Bromoethane	ND		0.50	ug/L			01/24/23 14:47	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			01/24/23 14:47	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			01/24/23 14:47	1
Trichlorotrifluoroethane	ND		0.50	ug/L			01/24/23 14:47	1
Diisopropyl ether	ND		3.0	ug/L			01/24/23 14:47	1
Vinyl Chloride (VC)	ND		0.30	ug/L			01/24/23 14:47	1
Xylenes, Total	ND		0.50	ug/L			01/24/23 14:47	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		01/24/23 14:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		01/24/23 14:47	1
4-Bromofluorobenzene (Surr)	97		70 - 130		01/24/23 14:47	1
Toluene-d8 (Surr)	87		70 - 130		01/24/23 14:47	1

**Lab Sample ID: LCS 380-30532/4**  
**Matrix: Water**  
**Analysis Batch: 30532**

**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	4.90		ug/L		98	70 - 130
1,1,1-Trichloroethane	5.00	4.71		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.37		ug/L		107	70 - 130
1,1,2-Trichloroethane	5.00	5.12		ug/L		102	70 - 130
1,1-Dichloroethane	5.00	5.22		ug/L		104	70 - 130
1,1-Dichlorethylene	5.00	5.32		ug/L		106	70 - 130
1,1-Dichloropropene	5.00	5.07		ug/L		101	70 - 130
1,2,3-Trichlorobenzene	5.00	4.76		ug/L		95	70 - 130
1,2,3-Trichloropropane	5.00	5.37		ug/L		107	70 - 130
1,2,4-Trichlorobenzene	5.00	4.40		ug/L		88	70 - 130
1,2,4-Trimethy benzene	5.00	5.47		ug/L		109	70 - 130
1,2-Dichloroethane	5.00	5.19		ug/L		104	70 - 130
1,2-Dichloropropane	5.00	5.03		ug/L		101	70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

Lab Sample ID: LCS 380-30532/4

Matrix: Water

Analysis Batch: 30532

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethy benzene	5.00	4.29		ug/L		86	70 - 130
1,3-Dichloropropane	5.00	5.18		ug/L		104	70 - 130
2,2-Dichloropropane	5.00	4.40		ug/L		88	70 - 130
2-Butanone (MEK)	50.0	53.1		ug/L		106	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	56.6		ug/L		113	70 - 130
Acetone	50.0	52.0	J	ug/L		104	70 - 130
Benzene	5.00	5.13		ug/L		103	70 - 130
Bromobenzene	5.00	4.97		ug/L		99	70 - 130
Bromochloromethane	5.00	5.04		ug/L		101	70 - 130
Bromodichloromethane	5.00	4.97		ug/L		99	70 - 130
Bromoform	5.00	4.52		ug/L		90	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.26		ug/L		105	70 - 130
Carbon disulfide	5.00	5.10		ug/L		102	70 - 130
Carbon tetrachloride	5.00	4.78		ug/L		96	70 - 130
Chlorobenzene	5.00	5.06		ug/L		101	70 - 130
Chlorodibromomethane	5.00	4.79		ug/L		96	70 - 130
cis-1,3-Dichloropropene	5.00	4.32		ug/L		86	70 - 130
Dichloromethane	5.00	4.74		ug/L		95	70 - 130
Ethylbenzene	5.00	5.15		ug/L		103	70 - 130
Hexachlorobutadiene	5.00	5.10		ug/L		102	70 - 130
Isopropyl benzene	5.00	5.11		ug/L		102	70 - 130
m,p-Xylenes	10.0	10.9		ug/L		109	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.11		ug/L		102	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.90		ug/L		98	70 - 130
Naphthalene	5.00	3.96		ug/L		79	70 - 130
n-Butylbenzene	5.00	3.97		ug/L		79	70 - 130
N-Propylbenzene	5.00	5.34		ug/L		107	70 - 130
o-Chlorotoluene	5.00	5.13		ug/L		103	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.15		ug/L		83	70 - 130
o-Xylene	5.00	4.79		ug/L		96	70 - 130
p-Chlorotoluene	5.00	5.63		ug/L		113	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.08		ug/L		102	70 - 130
p-Isopropyltoluene	5.00	4.32		ug/L		86	70 - 130
sec-Butylbenzene	5.00	4.36		ug/L		87	70 - 130
Styrene	5.00	4.80		ug/L		96	70 - 130
Tert-amyl methyl ether	5.00	4.58		ug/L		92	70 - 130
1,3-Dichloropropene, Total	10.0	8.69		ug/L		87	70 - 130
Tert-butyl ethyl ether	5.00	4.73		ug/L		95	70 - 130
tert-Butylbenzene	5.00	5.13		ug/L		103	70 - 130
Tetrachloroethene (PCE)	5.00	5.05		ug/L		101	70 - 130
Toluene	5.00	5.21		ug/L		104	70 - 130
trans-1,2-Dichloroethylene	5.00	5.12		ug/L		102	70 - 130
trans-1,3-Dichloropropene	5.00	4.37		ug/L		87	70 - 130
Trichloroethylene (TCE)	5.00	5.01		ug/L		100	70 - 130
Bromoethane	5.00	4.93		ug/L		99	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.85		ug/L		97	70 - 130
Trichlorotrifluoroethane	5.00	5.77		ug/L		115	70 - 130
Diisopropyl ether	5.00	5.13		ug/L		103	70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30532/4**  
**Matrix: Water**  
**Analysis Batch: 30532**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl Chloride (VC)	5.00	5.62		ug/L		112	70 - 130
Xylenes, Total	15.0	15.7		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	104		70 - 130
Toluene-d8 (Surr)	106		70 - 130

**Lab Sample ID: LCSD 380-30532/5**  
**Matrix: Water**  
**Analysis Batch: 30532**

**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	5.23		ug/L		105	70 - 130	7	20
1,1,1-Trichloroethane	5.00	4.96		ug/L		99	70 - 130	5	20
1,1,2,2-Tetrachloroethane	5.00	5.43		ug/L		109	70 - 130	1	20
1,1,2-Trichloroethane	5.00	5.32		ug/L		106	70 - 130	4	20
1,1-Dichloroethane	5.00	5.55		ug/L		111	70 - 130	6	20
1,1-Dichlorethylene	5.00	5.51		ug/L		110	70 - 130	4	20
1,1-Dichloropropene	5.00	5.26		ug/L		105	70 - 130	4	20
1,2,3-Trichlorobenzene	5.00	5.24		ug/L		105	70 - 130	10	20
1,2,3-Trichloropropane	5.00	5.41		ug/L		108	70 - 130	1	20
1,2,4-Trichlorobenzene	5.00	4.97		ug/L		99	70 - 130	12	20
1,2,4-Trimethy benzene	5.00	5.51		ug/L		110	70 - 130	1	20
1,2-Dichloroethane	5.00	5.34		ug/L		107	70 - 130	3	20
1,2-Dichloropropane	5.00	5.28		ug/L		106	70 - 130	5	20
1,3,5-Trimethy benzene	5.00	4.57		ug/L		91	70 - 130	6	20
1,3-Dichloropropane	5.00	5.56		ug/L		111	70 - 130	7	20
2,2-Dichloropropane	5.00	4.67		ug/L		93	70 - 130	6	20
2-Butanone (MEK)	50.0	52.9		ug/L		106	70 - 130	0	20
4-Methyl-2-pentanone (MIBK)	50.0	58.0		ug/L		116	70 - 130	2	20
Acetone	50.0	53.8	J	ug/L		108	70 - 130	3	20
Benzene	5.00	5.37		ug/L		107	70 - 130	5	20
Bromobenzene	5.00	5.22		ug/L		104	70 - 130	5	20
Bromochloromethane	5.00	5.22		ug/L		104	70 - 130	3	20
Bromodichloromethane	5.00	5.39		ug/L		108	70 - 130	8	20
Bromoform	5.00	4.58		ug/L		92	70 - 130	1	20
Bromomethane (Methyl Bromide)	5.00	5.48		ug/L		110	70 - 130	4	20
Carbon disulfide	5.00	5.52		ug/L		110	70 - 130	8	20
Carbon tetrachloride	5.00	5.31		ug/L		106	70 - 130	10	20
Chlorobenzene	5.00	5.30		ug/L		106	70 - 130	5	20
Chlorodibromomethane	5.00	4.95		ug/L		99	70 - 130	3	20
cis-1,3-Dichloropropene	5.00	4.58		ug/L		92	70 - 130	6	20
Dichloromethane	5.00	5.40		ug/L		108	70 - 130	13	20
Ethylbenzene	5.00	5.49		ug/L		110	70 - 130	6	20
Hexachlorobutadiene	5.00	5.46		ug/L		109	70 - 130	7	20
Isopropy benzene	5.00	5.32		ug/L		106	70 - 130	4	20
m,p-Xylenes	10.0	11.4		ug/L		114	70 - 130	4	20

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30532/5**  
**Matrix: Water**  
**Analysis Batch: 30532**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Dichlorobenzene (1,3-DCB)	5.00	5.27		ug/L		105	70 - 130	3	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.16		ug/L		103	70 - 130	5	20
Naphthalene	5.00	4.38		ug/L		88	70 - 130	10	20
n-Butylbenzene	5.00	4.21		ug/L		84	70 - 130	6	20
N-Propylbenzene	5.00	5.53		ug/L		111	70 - 130	3	20
o-Chlorotoluene	5.00	5.54		ug/L		111	70 - 130	8	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.31		ug/L		86	70 - 130	4	20
o-Xylene	5.00	4.85		ug/L		97	70 - 130	1	20
p-Chlorotoluene	5.00	5.77		ug/L		115	70 - 130	2	20
p-Dichlorobenzene (1,4-DCB)	5.00	5.21		ug/L		104	70 - 130	2	20
p-Isopropyltoluene	5.00	4.48		ug/L		90	70 - 130	4	20
sec-Butylbenzene	5.00	4.49		ug/L		90	70 - 130	3	20
Styrene	5.00	4.96		ug/L		99	70 - 130	3	20
Tert-amyl methyl ether	5.00	4.76		ug/L		95	70 - 130	4	20
1,3-Dichloropropene, Total	10.0	9.11		ug/L		91	70 - 130	5	20
Tert-butyl ethyl ether	5.00	5.15		ug/L		103	70 - 130	9	20
tert-Butylbenzene	5.00	5.31		ug/L		106	70 - 130	4	20
Tetrachloroethene (PCE)	5.00	5.17		ug/L		103	70 - 130	2	20
Toluene	5.00	5.40		ug/L		108	70 - 130	4	20
trans-1,2-Dichloroethylene	5.00	5.26		ug/L		105	70 - 130	3	20
trans-1,3-Dichloropropene	5.00	4.53		ug/L		91	70 - 130	4	20
Trichloroethylene (TCE)	5.00	5.37		ug/L		107	70 - 130	7	20
Bromoethane	5.00	5.44		ug/L		109	70 - 130	10	20
Trichlorofluoromethane (Freon 11)	5.00	5.08		ug/L		102	70 - 130	4	20
Trichlorotrifluoroethane	5.00	5.85		ug/L		117	70 - 130	1	20
Diisopropyl ether	5.00	5.59		ug/L		112	70 - 130	9	20
Vinyl Chloride (VC)	5.00	5.71		ug/L		114	70 - 130	1	20
Xylenes, Total	15.0	16.2		ug/L		108	70 - 130	3	20

Surrogate	%Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	103		70 - 130

**Lab Sample ID: MRL 380-30532/3**  
**Matrix: Water**  
**Analysis Batch: 30532**

**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	0.432	J	ug/L		86	50 - 150
Vinyl Chloride (VC)	0.250	0.253	J	ug/L		101	50 - 150

Surrogate	%Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Toluene-d8 (Surr)	92		70 - 130

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30532/7**  
**Matrix: Water**  
**Analysis Batch: 30532**

**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	0.361	J	ug/L		72	50 - 150
1,1,1-Trichloroethane	0.500	0.455	J	ug/L		91	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.413	J	ug/L		83	50 - 150
1,1,2-Trichloroethane	0.500	0.330	J	ug/L		66	50 - 150
1,1-Dichloroethane	0.500	0.508		ug/L		102	50 - 150
1,1-Dichlorethylene	0.500	0.515		ug/L		103	50 - 150
1,1-Dichloropropene	0.500	0.446	J	ug/L		89	50 - 150
1,2,3-Trichlorobenzene	0.500	0.423	J	ug/L		85	50 - 150
1,2,3-Trichloropropane	0.500	0.354	J	ug/L		71	50 - 150
1,2,4-Trichlorobenzene	0.500	0.425	J	ug/L		85	50 - 150
1,2,4-Trimethy benzene	0.500	0.474	J	ug/L		95	50 - 150
1,2-Dichloroethane	0.500	0.425	J	ug/L		85	50 - 150
1,2-Dichloropropane	0.500	0.469	J	ug/L		94	50 - 150
1,3,5-Trimethy benzene	0.500	0.489	J	ug/L		98	50 - 150
1,3-Dichloropropane	0.500	0.334	J	ug/L		67	50 - 150
2,2-Dichloropropane	0.500	0.444	J	ug/L		89	50 - 150
2-Butanone (MEK)	5.00	3.19	J	ug/L		64	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	2.08	J ^3-	ug/L		42	50 - 150
Acetone	5.00	ND	^3-	ug/L		0	50 - 150
Benzene	0.500	0.460	J	ug/L		92	50 - 150
Bromobenzene	0.500	0.544		ug/L		109	50 - 150
Bromochloromethane	0.500	0.414	J	ug/L		83	50 - 150
Bromodichloromethane	0.500	0.416	J	ug/L		83	50 - 150
Bromoform	0.500	0.541		ug/L		108	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.523		ug/L		105	50 - 150
Carbon disulfide	0.500	0.475	J	ug/L		95	50 - 150
Carbon tetrachloride	0.500	0.417	J	ug/L		83	50 - 150
Chlorobenzene	0.500	0.403	J	ug/L		81	50 - 150
Chlorodibromomethane	0.500	0.499	J	ug/L		100	50 - 150
cis-1,3-Dichloropropene	0.500	0.601		ug/L		120	50 - 150
Dichloromethane	0.500	0.550		ug/L		110	50 - 150
Ethylbenzene	0.500	0.384	J	ug/L		77	50 - 150
Hexachlorobutadiene	0.500	0.502		ug/L		100	50 - 150
Isopropy benzene	0.500	0.489	J	ug/L		98	50 - 150
m,p-Xylenes	1.00	0.725		ug/L		73	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.589		ug/L		118	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.376	J	ug/L		75	50 - 150
Naphthalene	0.500	0.404	J	ug/L		81	50 - 150
n-Butylbenzene	0.500	0.623		ug/L		125	50 - 150
N-Propylbenzene	0.500	0.382	J	ug/L		76	50 - 150
o-Chlorotoluene	0.500	0.566		ug/L		113	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.564		ug/L		113	50 - 150
o-Xylene	0.500	0.388	J	ug/L		78	50 - 150
p-Chlorotoluene	0.500	0.361	J	ug/L		72	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.551		ug/L		110	50 - 150
p-Isopropyltoluene	0.500	0.507		ug/L		101	50 - 150
sec-Butylbenzene	0.500	0.539		ug/L		108	50 - 150
Styrene	0.500	0.455	J	ug/L		91	50 - 150

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30532/7**  
**Matrix: Water**  
**Analysis Batch: 30532**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Tert-amyl methyl ether	0.500	0.321	J	ug/L		64	50 - 150
1,3-Dichloropropene, Total	1.00	1.18		ug/L		118	50 - 150
Tert-butyl ethyl ether	0.500	0.374	J	ug/L		75	50 - 150
tert-Butylbenzene	0.500	0.500		ug/L		100	50 - 150
Tetrachloroethene (PCE)	0.500	0.452	J	ug/L		90	50 - 150
Toluene	0.500	0.441	J	ug/L		88	50 - 150
trans-1,2-Dichloroethylene	0.500	0.484	J	ug/L		97	50 - 150
trans-1,3-Dichloropropene	0.500	0.577		ug/L		115	50 - 150
Trichloroethylene (TCE)	0.500	0.454	J	ug/L		91	50 - 150
Bromoethane	0.500	0.535		ug/L		107	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.338	J	ug/L		68	50 - 150
Trichlorotrifluoroethane	0.500	0.391	J	ug/L		78	50 - 150
Diisopropyl ether	0.500	0.472	J	ug/L		94	50 - 150
Vinyl Chloride (VC)	0.500	0.287	J	ug/L		57	50 - 150
Xylenes, Total	1.50	1.11		ug/L		74	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 130
4-Bromofluorobenzene (Surr)	130		70 - 130
Toluene-d8 (Surr)	93		70 - 130

**Lab Sample ID: MB 380-30534/5**  
**Matrix: Water**  
**Analysis Batch: 30534**

**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	ND		0.50	ug/L			01/25/23 01:47	1
1,1,1-Trichloroethane	ND		0.50	ug/L			01/25/23 01:47	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			01/25/23 01:47	1
1,1,2-Trichloroethane	ND		0.50	ug/L			01/25/23 01:47	1
1,1-Dichloroethane	ND		0.50	ug/L			01/25/23 01:47	1
1,1-Dichloroethylene	ND		0.50	ug/L			01/25/23 01:47	1
1,1-Dichloropropene	ND		0.50	ug/L			01/25/23 01:47	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			01/25/23 01:47	1
1,2,3-Trichloropropane	ND		0.50	ug/L			01/25/23 01:47	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			01/25/23 01:47	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			01/25/23 01:47	1
1,2-Dichloroethane	ND		0.50	ug/L			01/25/23 01:47	1
1,2-Dichloropropane	ND		0.50	ug/L			01/25/23 01:47	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			01/25/23 01:47	1
1,3-Dichloropropane	ND		0.50	ug/L			01/25/23 01:47	1
2,2-Dichloropropane	ND		0.50	ug/L			01/25/23 01:47	1
2-Butanone (MEK)	ND		5.0	ug/L			01/25/23 01:47	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			01/25/23 01:47	1
Acetone	ND		500	ug/L			01/25/23 01:47	1
Benzene	ND		0.50	ug/L			01/25/23 01:47	1
Bromobenzene	ND		0.50	ug/L			01/25/23 01:47	1
Bromochloromethane	ND		0.50	ug/L			01/25/23 01:47	1

Eurofins Drinking Water Testing Pomona



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30534/5**  
**Matrix: Water**  
**Analysis Batch: 30534**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.50	ug/L			01/25/23 01:47	1
Bromoform	ND		0.50	ug/L			01/25/23 01:47	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			01/25/23 01:47	1
Carbon disulfide	ND		0.50	ug/L			01/25/23 01:47	1
Carbon tetrachloride	ND		0.50	ug/L			01/25/23 01:47	1
Chlorobenzene	ND		0.50	ug/L			01/25/23 01:47	1
Chlorodibromomethane	ND		0.50	ug/L			01/25/23 01:47	1
Chloroethane	ND		0.50	ug/L			01/25/23 01:47	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			01/25/23 01:47	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 01:47	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 01:47	1
Dibromomethane	ND		0.50	ug/L			01/25/23 01:47	1
Dichlorodifluoromethane	ND		0.50	ug/L			01/25/23 01:47	1
Dichloromethane	ND		0.50	ug/L			01/25/23 01:47	1
Ethylbenzene	ND		0.50	ug/L			01/25/23 01:47	1
Hexachlorobutadiene	ND		0.50	ug/L			01/25/23 01:47	1
Isopropyl benzene	ND		0.50	ug/L			01/25/23 01:47	1
m,p-Xylenes	ND		0.50	ug/L			01/25/23 01:47	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			01/25/23 01:47	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			01/25/23 01:47	1
Naphthalene	0.520	B	0.50	ug/L			01/25/23 01:47	1
n-Butylbenzene	ND		0.50	ug/L			01/25/23 01:47	1
N-Propylbenzene	ND		0.50	ug/L			01/25/23 01:47	1
o-Chlorotoluene	ND		0.50	ug/L			01/25/23 01:47	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			01/25/23 01:47	1
o-Xylene	ND		0.50	ug/L			01/25/23 01:47	1
p-Chlorotoluene	ND		0.50	ug/L			01/25/23 01:47	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			01/25/23 01:47	1
p-Isopropyltoluene	ND		0.50	ug/L			01/25/23 01:47	1
sec-Butylbenzene	ND		0.50	ug/L			01/25/23 01:47	1
Styrene	ND		0.50	ug/L			01/25/23 01:47	1
Tert-amyl methyl ether	ND		3.0	ug/L			01/25/23 01:47	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			01/25/23 01:47	1
Tert-butyl ethyl ether	ND		3.0	ug/L			01/25/23 01:47	1
tert-Butylbenzene	ND		0.50	ug/L			01/25/23 01:47	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			01/25/23 01:47	1
Toluene	ND		0.50	ug/L			01/25/23 01:47	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 01:47	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 01:47	1
Trichloroethylene (TCE)	ND		0.50	ug/L			01/25/23 01:47	1
Bromoethane	ND		0.50	ug/L			01/25/23 01:47	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			01/25/23 01:47	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			01/25/23 01:47	1
Trichlorotrifluoroethane	ND		0.50	ug/L			01/25/23 01:47	1
Diisopropyl ether	ND		3.0	ug/L			01/25/23 01:47	1
Vinyl Chloride (VC)	ND		0.30	ug/L			01/25/23 01:47	1
Xylenes, Total	ND		0.50	ug/L			01/25/23 01:47	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30534/5**  
**Matrix: Water**  
**Analysis Batch: 30534**

**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>
<i>Tentatively Identified Compound</i>	<i>None</i>		<i>ug/L</i>			<i>N/A</i>		<i>01/25/23 01:47</i>	<i>1</i>

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	<i>102</i>		<i>70 - 130</i>		<i>01/25/23 01:47</i>	<i>1</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>96</i>		<i>70 - 130</i>		<i>01/25/23 01:47</i>	<i>1</i>
<i>Toluene-d8 (Surr)</i>	<i>87</i>		<i>70 - 130</i>		<i>01/25/23 01:47</i>	<i>1</i>

**Lab Sample ID: LCS 380-30534/3**  
**Matrix: Water**  
**Analysis Batch: 30534**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,1,1,2-Tetrachloroethane	5.00	5.06		ug/L		101	70 - 130
1,1,1-Trichloroethane	5.00	5.14		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.46		ug/L		109	70 - 130
1,1,2-Trichloroethane	5.00	5.20		ug/L		104	70 - 130
1,1-Dichloroethane	5.00	5.50		ug/L		110	70 - 130
1,1-Dichlorethylene	5.00	5.42		ug/L		108	70 - 130
1,1-Dichloropropene	5.00	5.33		ug/L		107	70 - 130
1,2,3-Trichlorobenzene	5.00	6.12		ug/L		122	70 - 130
1,2,3-Trichloropropane	5.00	5.43		ug/L		109	70 - 130
1,2,4-Trichlorobenzene	5.00	5.68		ug/L		114	70 - 130
1,2,4-Trimethy benzene	5.00	5.94		ug/L		119	70 - 130
1,2-Dichloroethane	5.00	5.21		ug/L		104	70 - 130
1,2-Dichloropropane	5.00	5.22		ug/L		104	70 - 130
1,3,5-Trimethy benzene	5.00	5.03		ug/L		101	70 - 130
1,3-Dichloropropane	5.00	5.30		ug/L		106	70 - 130
2,2-Dichloropropane	5.00	3.66		ug/L		73	70 - 130
2-Butanone (MEK)	50.0	48.3		ug/L		97	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	51.1		ug/L		102	70 - 130
Acetone	50.0	50.1	J	ug/L		100	70 - 130
Benzene	5.00	5.39		ug/L		108	70 - 130
Bromobenzene	5.00	5.68		ug/L		114	70 - 130
Bromochloromethane	5.00	5.15		ug/L		103	70 - 130
Bromodichloromethane	5.00	5.26		ug/L		105	70 - 130
Bromoform	5.00	4.77		ug/L		95	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.37		ug/L		107	70 - 130
Carbon disulfide	5.00	5.77		ug/L		115	70 - 130
Carbon tetrachloride	5.00	5.11		ug/L		102	70 - 130
Chlorobenzene	5.00	5.26		ug/L		105	70 - 130
Chlorodibromomethane	5.00	4.61		ug/L		92	70 - 130
cis-1,3-Dichloropropene	5.00	4.37		ug/L		87	70 - 130
Dichloromethane	5.00	5.69		ug/L		114	70 - 130
Ethylbenzene	5.00	5.40		ug/L		108	70 - 130
Hexachlorobutadiene	5.00	5.09		ug/L		102	70 - 130
Isopropyl benzene	5.00	5.98		ug/L		120	70 - 130
m,p-Xylenes	10.0	11.1		ug/L		111	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.76		ug/L		115	70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30534/3**  
**Matrix: Water**  
**Analysis Batch: 30534**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methyl-tert-butyl Ether (MTBE)	5.00	4.79		ug/L		96	70 - 130
Naphthalene	5.00	5.10		ug/L		102	70 - 130
n-Butylbenzene	5.00	5.07		ug/L		101	70 - 130
N-Propylbenzene	5.00	5.46		ug/L		109	70 - 130
o-Chlorotoluene	5.00	5.87		ug/L		117	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	5.23		ug/L		105	70 - 130
o-Xylene	5.00	4.73		ug/L		95	70 - 130
p-Chlorotoluene	5.00	5.49		ug/L		110	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.63		ug/L		113	70 - 130
p-Isopropyltoluene	5.00	4.86		ug/L		97	70 - 130
sec-Butylbenzene	5.00	4.88		ug/L		98	70 - 130
Styrene	5.00	4.79		ug/L		96	70 - 130
Tert-amyl methyl ether	5.00	4.48		ug/L		90	70 - 130
1,3-Dichloropropene, Total	10.0	8.57		ug/L		86	70 - 130
Tert-butyl ethyl ether	5.00	4.70		ug/L		94	70 - 130
tert-Butylbenzene	5.00	5.84		ug/L		117	70 - 130
Tetrachloroethene (PCE)	5.00	5.35		ug/L		107	70 - 130
Toluene	5.00	5.44		ug/L		109	70 - 130
trans-1,2-Dichloroethylene	5.00	5.38		ug/L		108	70 - 130
trans-1,3-Dichloropropene	5.00	4.20		ug/L		84	70 - 130
Trichloroethylene (TCE)	5.00	5.38		ug/L		108	70 - 130
Bromoethane	5.00	5.58		ug/L		112	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.00		ug/L		100	70 - 130
Trichlorotrifluoroethane	5.00	5.78		ug/L		116	70 - 130
Diisopropyl ether	5.00	5.46		ug/L		109	70 - 130
Vinyl Chloride (VC)	5.00	5.83		ug/L		117	70 - 130
Xylenes, Total	15.0	15.8		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	94		70 - 130
Toluene-d8 (Surr)	104		70 - 130

**Lab Sample ID: LCSD 380-30534/4**  
**Matrix: Water**  
**Analysis Batch: 30534**

**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	4.83		ug/L		97	70 - 130	5	20
1,1,1-Trichloroethane	5.00	4.74		ug/L		95	70 - 130	8	20
1,1,2,2-Tetrachloroethane	5.00	4.93		ug/L		99	70 - 130	10	20
1,1,2-Trichloroethane	5.00	5.00		ug/L		100	70 - 130	4	20
1,1-Dichloroethane	5.00	5.23		ug/L		105	70 - 130	5	20
1,1-Dichlorethylene	5.00	5.38		ug/L		108	70 - 130	1	20
1,1-Dichloropropene	5.00	4.95		ug/L		99	70 - 130	8	20
1,2,3-Trichlorobenzene	5.00	4.52	*1	ug/L		90	70 - 130	30	20
1,2,3-Trichloropropane	5.00	4.90		ug/L		98	70 - 130	10	20
1,2,4-Trichlorobenzene	5.00	4.30	*1	ug/L		86	70 - 130	28	20

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30534/4**  
**Matrix: Water**  
**Analysis Batch: 30534**

**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-Trimethy benzene	5.00	5.32		ug/L		106	70 - 130	11	20
1,2-Dichloroethane	5.00	4.88		ug/L		98	70 - 130	6	20
1,2-Dichloropropane	5.00	4.97		ug/L		99	70 - 130	5	20
1,3,5-Trimethy benzene	5.00	4.38		ug/L		88	70 - 130	14	20
1,3-Dichloropropane	5.00	4.96		ug/L		99	70 - 130	7	20
2,2-Dichloropropane	5.00	3.75		ug/L		75	70 - 130	2	20
2-Butanone (MEK)	50.0	45.8		ug/L		92	70 - 130	5	20
4-Methyl-2-pentanone (MIBK)	50.0	47.9		ug/L		96	70 - 130	7	20
Acetone	50.0	49.0	J	ug/L		98	70 - 130	2	20
Benzene	5.00	5.15		ug/L		103	70 - 130	4	20
Bromobenzene	5.00	5.10		ug/L		102	70 - 130	11	20
Bromochloromethane	5.00	5.05		ug/L		101	70 - 130	2	20
Bromodichloromethane	5.00	4.94		ug/L		99	70 - 130	6	20
Bromoform	5.00	4.26		ug/L		85	70 - 130	11	20
Bromomethane (Methyl Bromide)	5.00	5.20		ug/L		104	70 - 130	3	20
Carbon disulfide	5.00	5.48		ug/L		110	70 - 130	5	20
Carbon tetrachloride	5.00	5.03		ug/L		101	70 - 130	2	20
Chlorobenzene	5.00	4.97		ug/L		99	70 - 130	6	20
Chlorodibromomethane	5.00	4.50		ug/L		90	70 - 130	2	20
cis-1,3-Dichloropropene	5.00	4.16		ug/L		83	70 - 130	5	20
Dichloromethane	5.00	5.48		ug/L		110	70 - 130	4	20
Ethylbenzene	5.00	5.10		ug/L		102	70 - 130	6	20
Hexachlorobutadiene	5.00	4.85		ug/L		97	70 - 130	5	20
Isopropy benzene	5.00	5.11		ug/L		102	70 - 130	16	20
m,p-Xylenes	10.0	10.9		ug/L		109	70 - 130	1	20
m-Dichlorobenzene (1,3-DCB)	5.00	5.06		ug/L		101	70 - 130	13	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.75		ug/L		95	70 - 130	1	20
Naphthalene	5.00	3.65	*1	ug/L		73	70 - 130	33	20
n-Butylbenzene	5.00	3.83	*1	ug/L		77	70 - 130	28	20
N-Propylbenzene	5.00	5.31		ug/L		106	70 - 130	3	20
o-Chlorotoluene	5.00	5.30		ug/L		106	70 - 130	10	20
o-Dichlorobenzene (1,2-DCB)	5.00	3.96	*1	ug/L		79	70 - 130	28	20
o-Xylene	5.00	4.52		ug/L		90	70 - 130	5	20
p-Chlorotoluene	5.00	5.27		ug/L		105	70 - 130	4	20
p-Dichlorobenzene (1,4-DCB)	5.00	5.03		ug/L		101	70 - 130	11	20
p-Isopropyltoluene	5.00	4.25		ug/L		85	70 - 130	13	20
sec-Butylbenzene	5.00	4.26		ug/L		85	70 - 130	13	20
Styrene	5.00	4.57		ug/L		91	70 - 130	5	20
Tert-amyl methyl ether	5.00	4.28		ug/L		86	70 - 130	5	20
1,3-Dichloropropene, Total	10.0	8.27		ug/L		83	70 - 130	4	20
Tert-butyl ethyl ether	5.00	4.69		ug/L		94	70 - 130	0	20
tert-Butylbenzene	5.00	5.16		ug/L		103	70 - 130	12	20
Tetrachloroethene (PCE)	5.00	4.99		ug/L		100	70 - 130	7	20
Toluene	5.00	5.24		ug/L		105	70 - 130	4	20
trans-1,2-Dichloroethylene	5.00	5.14		ug/L		103	70 - 130	5	20
trans-1,3-Dichloropropene	5.00	4.11		ug/L		82	70 - 130	2	20
Trichloroethylene (TCE)	5.00	4.97		ug/L		99	70 - 130	8	20
Bromoethane	5.00	5.22		ug/L		104	70 - 130	7	20

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30534/4**  
**Matrix: Water**  
**Analysis Batch: 30534**

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Trichlorofluoromethane (Freon 11)	5.00	4.77		ug/L		95	70 - 130	5	20
Trichlorotrifluoroethane	5.00	5.50		ug/L		110	70 - 130	5	20
Diisopropyl ether	5.00	5.29		ug/L		106	70 - 130	3	20
Vinyl Chloride (VC)	5.00	5.76		ug/L		115	70 - 130	1	20
Xylenes, Total	15.0	15.5		ug/L		103	70 - 130	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	108		70 - 130
Toluene-d8 (Surr)	104		70 - 130

**Lab Sample ID: MB 380-30675/15**  
**Matrix: Water**  
**Analysis Batch: 30675**

**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	ND		0.50	ug/L			01/25/23 19:55	1
1,1,1-Trichloroethane	ND		0.50	ug/L			01/25/23 19:55	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			01/25/23 19:55	1
1,1,2-Trichloroethane	ND		0.50	ug/L			01/25/23 19:55	1
1,1-Dichloroethane	ND		0.50	ug/L			01/25/23 19:55	1
1,1-Dichloroethylene	ND		0.50	ug/L			01/25/23 19:55	1
1,1-Dichloropropene	ND		0.50	ug/L			01/25/23 19:55	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			01/25/23 19:55	1
1,2,3-Trichloropropane	ND		0.50	ug/L			01/25/23 19:55	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			01/25/23 19:55	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			01/25/23 19:55	1
1,2-Dichloroethane	ND		0.50	ug/L			01/25/23 19:55	1
1,2-Dichloropropane	ND		0.50	ug/L			01/25/23 19:55	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			01/25/23 19:55	1
1,3-Dichloropropane	ND		0.50	ug/L			01/25/23 19:55	1
2,2-Dichloropropane	ND		0.50	ug/L			01/25/23 19:55	1
2-Butanone (MEK)	ND		5.0	ug/L			01/25/23 19:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			01/25/23 19:55	1
Acetone	ND		500	ug/L			01/25/23 19:55	1
Benzene	ND		0.50	ug/L			01/25/23 19:55	1
Bromobenzene	ND		0.50	ug/L			01/25/23 19:55	1
Bromochloromethane	ND		0.50	ug/L			01/25/23 19:55	1
Bromodichloromethane	ND		0.50	ug/L			01/25/23 19:55	1
Bromoform	ND		0.50	ug/L			01/25/23 19:55	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			01/25/23 19:55	1
Carbon disulfide	ND		0.50	ug/L			01/25/23 19:55	1
Carbon tetrachloride	ND		0.50	ug/L			01/25/23 19:55	1
Chlorobenzene	ND		0.50	ug/L			01/25/23 19:55	1
Chlorodibromomethane	ND		0.50	ug/L			01/25/23 19:55	1
Chloroethane	ND		0.50	ug/L			01/25/23 19:55	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			01/25/23 19:55	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 19:55	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30675/15**  
**Matrix: Water**  
**Analysis Batch: 30675**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 19:55	1
Dibromomethane	ND		0.50	ug/L			01/25/23 19:55	1
Dichlorodifluoromethane	ND		0.50	ug/L			01/25/23 19:55	1
Dichloromethane	ND		0.50	ug/L			01/25/23 19:55	1
Ethylbenzene	ND		0.50	ug/L			01/25/23 19:55	1
Hexachlorobutadiene	ND		0.50	ug/L			01/25/23 19:55	1
Isopropyl benzene	ND		0.50	ug/L			01/25/23 19:55	1
m,p-Xylenes	ND		0.50	ug/L			01/25/23 19:55	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			01/25/23 19:55	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			01/25/23 19:55	1
Naphthalene	ND		0.50	ug/L			01/25/23 19:55	1
n-Butylbenzene	ND		0.50	ug/L			01/25/23 19:55	1
N-Propylbenzene	ND		0.50	ug/L			01/25/23 19:55	1
o-Chlorotoluene	ND		0.50	ug/L			01/25/23 19:55	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			01/25/23 19:55	1
o-Xylene	ND		0.50	ug/L			01/25/23 19:55	1
p-Chlorotoluene	ND		0.50	ug/L			01/25/23 19:55	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			01/25/23 19:55	1
p-Isopropyltoluene	ND		0.50	ug/L			01/25/23 19:55	1
sec-Butylbenzene	ND		0.50	ug/L			01/25/23 19:55	1
Styrene	ND		0.50	ug/L			01/25/23 19:55	1
Tert-amyl methyl ether	ND		3.0	ug/L			01/25/23 19:55	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			01/25/23 19:55	1
Tert-butyl ethyl ether	ND		3.0	ug/L			01/25/23 19:55	1
tert-Butylbenzene	ND		0.50	ug/L			01/25/23 19:55	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			01/25/23 19:55	1
Toluene	ND		0.50	ug/L			01/25/23 19:55	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			01/25/23 19:55	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/25/23 19:55	1
Trichloroethylene (TCE)	ND		0.50	ug/L			01/25/23 19:55	1
Bromoethane	ND		0.50	ug/L			01/25/23 19:55	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			01/25/23 19:55	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			01/25/23 19:55	1
Trichlorotrifluoroethane	ND		0.50	ug/L			01/25/23 19:55	1
Diisopropyl ether	ND		3.0	ug/L			01/25/23 19:55	1
Vinyl Chloride (VC)	ND		0.30	ug/L			01/25/23 19:55	1
Xylenes, Total	ND		0.50	ug/L			01/25/23 19:55	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		01/25/23 19:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130		01/25/23 19:55	1
4-Bromofluorobenzene (Surr)	107		70 - 130		01/25/23 19:55	1
Toluene-d8 (Surr)	92		70 - 130		01/25/23 19:55	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30675/11**

**Matrix: Water**

**Analysis Batch: 30675**

**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	5.40		ug/L		108	70 - 130
1,1,1-Trichloroethane	5.00	5.45		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.56		ug/L		111	70 - 130
1,1,2-Trichloroethane	5.00	5.07		ug/L		101	70 - 130
1,1-Dichloroethane	5.00	5.16		ug/L		103	70 - 130
1,1-Dichlorethylene	5.00	5.01		ug/L		100	70 - 130
1,1-Dichloropropene	5.00	5.16		ug/L		103	70 - 130
1,2,3-Trichlorobenzene	5.00	5.90		ug/L		118	70 - 130
1,2,3-Trichloropropane	5.00	5.66		ug/L		113	70 - 130
1,2,4-Trichlorobenzene	5.00	5.62		ug/L		112	70 - 130
1,2,4-Trimethy benzene	5.00	6.02		ug/L		120	70 - 130
1,2-Dichloroethane	5.00	5.32		ug/L		106	70 - 130
1,2-Dichloropropane	5.00	5.19		ug/L		104	70 - 130
1,3,5-Trimethy benzene	5.00	5.70		ug/L		114	70 - 130
1,3-Dichloropropane	5.00	5.29		ug/L		106	70 - 130
2,2-Dichloropropane	5.00	4.30		ug/L		86	70 - 130
2-Butanone (MEK)	50.0	52.3		ug/L		105	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	52.6		ug/L		105	70 - 130
Acetone	50.0	45.1	J	ug/L		90	70 - 130
Benzene	5.00	5.41		ug/L		108	70 - 130
Bromobenzene	5.00	5.69		ug/L		114	70 - 130
Bromochloromethane	5.00	5.21		ug/L		104	70 - 130
Bromodichloromethane	5.00	5.53		ug/L		111	70 - 130
Bromoform	5.00	5.84		ug/L		117	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.54		ug/L		111	70 - 130
Carbon disulfide	5.00	5.23		ug/L		105	70 - 130
Carbon tetrachloride	5.00	5.21		ug/L		104	70 - 130
Chlorobenzene	5.00	5.54		ug/L		111	70 - 130
Chlorodibromomethane	5.00	5.48		ug/L		110	70 - 130
cis-1,3-Dichloropropene	5.00	5.37		ug/L		107	70 - 130
Dichloromethane	5.00	5.52		ug/L		110	70 - 130
Ethylbenzene	5.00	5.48		ug/L		110	70 - 130
Hexachlorobutadiene	5.00	5.64		ug/L		113	70 - 130
Isopropy benzene	5.00	6.17		ug/L		123	70 - 130
m,p-Xylenes	10.0	11.5		ug/L		115	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.91		ug/L		118	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	5.34		ug/L		107	70 - 130
Naphthalene	5.00	6.31		ug/L		126	70 - 130
n-Butylbenzene	5.00	5.47		ug/L		109	70 - 130
N-Propylbenzene	5.00	5.70		ug/L		114	70 - 130
o-Chlorotoluene	5.00	6.10		ug/L		122	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	5.49		ug/L		110	70 - 130
o-Xylene	5.00	5.39		ug/L		108	70 - 130
p-Chlorotoluene	5.00	5.65		ug/L		113	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	6.04		ug/L		121	70 - 130
p-Isopropyltoluene	5.00	5.73		ug/L		115	70 - 130
sec-Butylbenzene	5.00	5.71		ug/L		114	70 - 130
Styrene	5.00	5.20		ug/L		104	70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30675/11**  
**Matrix: Water**  
**Analysis Batch: 30675**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tert-amyl methyl ether	5.00	5.43		ug/L		109	70 - 130
1,3-Dichloropropene, Total	10.0	10.6		ug/L		106	70 - 130
Tert-butyl ethyl ether	5.00	5.33		ug/L		107	70 - 130
tert-Butylbenzene	5.00	6.09		ug/L		122	70 - 130
Tetrachloroethene (PCE)	5.00	5.13		ug/L		103	70 - 130
Toluene	5.00	5.43		ug/L		109	70 - 130
trans-1,2-Dichloroethylene	5.00	5.50		ug/L		110	70 - 130
trans-1,3-Dichloropropene	5.00	5.25		ug/L		105	70 - 130
Trichloroethylene (TCE)	5.00	5.08		ug/L		102	70 - 130
Bromoethane	5.00	5.13		ug/L		103	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	6.02		ug/L		120	70 - 130
Trichlorotrifluoroethane	5.00	5.41		ug/L		108	70 - 130
Diisopropyl ether	5.00	5.08		ug/L		102	70 - 130
Vinyl Chloride (VC)	5.00	5.20		ug/L		104	70 - 130
Xylenes, Total	15.0	16.9		ug/L		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	108		70 - 130
Toluene-d8 (Surr)	99		70 - 130

**Lab Sample ID: LCSD 380-30675/12**  
**Matrix: Water**  
**Analysis Batch: 30675**

**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	5.46		ug/L		109	70 - 130	1	20
1,1,1-Trichloroethane	5.00	5.35		ug/L		107	70 - 130	2	20
1,1,1,2,2-Tetrachloroethane	5.00	6.20		ug/L		124	70 - 130	11	20
1,1,2-Trichloroethane	5.00	5.22		ug/L		104	70 - 130	3	20
1,1-Dichloroethane	5.00	5.47		ug/L		109	70 - 130	6	20
1,1-Dichloroethylene	5.00	5.19		ug/L		104	70 - 130	3	20
1,1-Dichloropropene	5.00	5.33		ug/L		107	70 - 130	3	20
1,2,3-Trichlorobenzene	5.00	6.74	*+	ug/L		135	70 - 130	13	20
1,2,3-Trichloropropane	5.00	5.98		ug/L		120	70 - 130	6	20
1,2,4-Trichlorobenzene	5.00	6.29		ug/L		126	70 - 130	11	20
1,2,4-Trimethy benzene	5.00	6.50		ug/L		130	70 - 130	8	20
1,2-Dichloroethane	5.00	5.53		ug/L		111	70 - 130	4	20
1,2-Dichloropropane	5.00	5.79		ug/L		116	70 - 130	11	20
1,3,5-Trimethy benzene	5.00	6.03		ug/L		121	70 - 130	6	20
1,3-Dichloropropane	5.00	5.43		ug/L		109	70 - 130	2	20
2,2-Dichloropropane	5.00	4.23		ug/L		85	70 - 130	2	20
2-Butanone (MEK)	50.0	54.0		ug/L		108	70 - 130	3	20
4-Methyl-2-pentanone (MIBK)	50.0	54.7		ug/L		109	70 - 130	4	20
Acetone	50.0	55.6	J *1	ug/L		111	70 - 130	21	20
Benzene	5.00	5.73		ug/L		115	70 - 130	6	20
Bromobenzene	5.00	6.02		ug/L		120	70 - 130	6	20
Bromochloromethane	5.00	5.66		ug/L		113	70 - 130	8	20

Eurofins Drinking Water Testing Pomona



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30675/12**  
**Matrix: Water**  
**Analysis Batch: 30675**

**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
Bromodichloromethane	5.00	5.65		ug/L		113	70 - 130	2	20
Bromoform	5.00	6.47		ug/L		129	70 - 130	10	20
Bromomethane (Methyl Bromide)	5.00	5.33		ug/L		107	70 - 130	4	20
Carbon disulfide	5.00	5.73		ug/L		115	70 - 130	9	20
Carbon tetrachloride	5.00	5.36		ug/L		107	70 - 130	3	20
Chlorobenzene	5.00	5.57		ug/L		111	70 - 130	1	20
Chlorodibromomethane	5.00	5.64		ug/L		113	70 - 130	3	20
cis-1,3-Dichloropropene	5.00	5.35		ug/L		107	70 - 130	0	20
Dichloromethane	5.00	5.68		ug/L		114	70 - 130	3	20
Ethylbenzene	5.00	5.35		ug/L		107	70 - 130	2	20
Hexachlorobutadiene	5.00	5.81		ug/L		116	70 - 130	3	20
Isopropyl benzene	5.00	6.29		ug/L		126	70 - 130	2	20
m,p-Xylenes	10.0	11.7		ug/L		117	70 - 130	2	20
m-Dichlorobenzene (1,3-DCB)	5.00	6.32		ug/L		126	70 - 130	7	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.64		ug/L		113	70 - 130	5	20
Naphthalene	5.00	6.98	*+	ug/L		140	70 - 130	10	20
n-Butylbenzene	5.00	6.22		ug/L		124	70 - 130	13	20
N-Propylbenzene	5.00	5.64		ug/L		113	70 - 130	1	20
o-Chlorotoluene	5.00	6.27		ug/L		125	70 - 130	3	20
o-Dichlorobenzene (1,2-DCB)	5.00	6.11		ug/L		122	70 - 130	11	20
o-Xylene	5.00	5.45		ug/L		109	70 - 130	1	20
p-Chlorotoluene	5.00	5.86		ug/L		117	70 - 130	4	20
p-Dichlorobenzene (1,4-DCB)	5.00	6.46		ug/L		129	70 - 130	7	20
p-Isopropyltoluene	5.00	5.89		ug/L		118	70 - 130	3	20
sec-Butylbenzene	5.00	5.91		ug/L		118	70 - 130	3	20
Styrene	5.00	5.17		ug/L		103	70 - 130	1	20
Tert-amyl methyl ether	5.00	5.84		ug/L		117	70 - 130	7	20
1,3-Dichloropropene, Total	10.0	10.7		ug/L		107	70 - 130	0	20
Tert-butyl ethyl ether	5.00	5.72		ug/L		114	70 - 130	7	20
tert-Butylbenzene	5.00	6.48		ug/L		130	70 - 130	6	20
Tetrachloroethene (PCE)	5.00	5.43		ug/L		109	70 - 130	6	20
Toluene	5.00	5.45		ug/L		109	70 - 130	0	20
trans-1,2-Dichloroethylene	5.00	5.59		ug/L		112	70 - 130	1	20
trans-1,3-Dichloropropene	5.00	5.31		ug/L		106	70 - 130	1	20
Trichloroethylene (TCE)	5.00	5.59		ug/L		112	70 - 130	10	20
Bromoethane	5.00	5.92		ug/L		118	70 - 130	14	20
Trichlorofluoromethane (Freon 11)	5.00	6.21		ug/L		124	70 - 130	3	20
Trichlorotrifluoroethane	5.00	5.26		ug/L		105	70 - 130	3	20
Diisopropyl ether	5.00	5.48		ug/L		110	70 - 130	7	20
Vinyl Chloride (VC)	5.00	5.20		ug/L		104	70 - 130	0	20
Xylenes, Total	15.0	17.2		ug/L		114	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	100		70 - 130

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30675/10**  
**Matrix: Water**  
**Analysis Batch: 30675**

**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	0.556		ug/L		111	50 - 150
Vinyl Chloride (VC)	0.250	0.295	J	ug/L		118	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	92		70 - 130

**Lab Sample ID: MRL 380-30675/14**  
**Matrix: Water**  
**Analysis Batch: 30675**

**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	0.652		ug/L		130	50 - 150
1,1,1-Trichloroethane	0.500	0.473	J	ug/L		95	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.422	J	ug/L		84	50 - 150
1,1,2-Trichloroethane	0.500	0.437	J	ug/L		87	50 - 150
1,1-Dichloroethane	0.500	0.576		ug/L		115	50 - 150
1,1-Dichlorethylene	0.500	0.622		ug/L		124	50 - 150
1,1-Dichloropropene	0.500	0.512		ug/L		102	50 - 150
1,2,3-Trichlorobenzene	0.500	0.511		ug/L		102	50 - 150
1,2,3-Trichloropropane	0.500	0.425	J	ug/L		85	50 - 150
1,2,4-Trichlorobenzene	0.500	0.540		ug/L		108	50 - 150
1,2,4-Trimethy benzene	0.500	0.477	J	ug/L		95	50 - 150
1,2-Dichloroethane	0.500	0.527		ug/L		105	50 - 150
1,2-Dichloropropane	0.500	0.555		ug/L		111	50 - 150
1,3,5-Trimethy benzene	0.500	0.624		ug/L		125	50 - 150
1,3-Dichloropropane	0.500	0.383	J	ug/L		77	50 - 150
2,2-Dichloropropane	0.500	0.420	J	ug/L		84	50 - 150
2-Butanone (MEK)	5.00	3.32	J	ug/L		66	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	4.36	J	ug/L		87	50 - 150
Acetone	5.00	ND	^3-	ug/L		0	50 - 150
Benzene	0.500	0.505		ug/L		101	50 - 150
Bromobenzene	0.500	0.576		ug/L		115	50 - 150
Bromochloromethane	0.500	0.546		ug/L		109	50 - 150
Bromodichloromethane	0.500	0.628		ug/L		126	50 - 150
Bromoform	0.500	0.498	J	ug/L		100	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.505		ug/L		101	50 - 150
Carbon disulfide	0.500	0.568		ug/L		114	50 - 150
Carbon tetrachloride	0.500	0.526		ug/L		105	50 - 150
Chlorobenzene	0.500	0.496	J	ug/L		99	50 - 150
Chlorodibromomethane	0.500	0.642		ug/L		128	50 - 150
cis-1,3-Dichloropropene	0.500	0.586		ug/L		117	50 - 150
Dichloromethane	0.500	0.744		ug/L		149	50 - 150
Ethylbenzene	0.500	0.631		ug/L		126	50 - 150
Hexachlorobutadiene	0.500	0.589		ug/L		118	50 - 150
Isopropy benzene	0.500	0.584		ug/L		117	50 - 150
m,p-Xylenes	1.00	0.798		ug/L		80	50 - 150

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30675/14**  
**Matrix: Water**  
**Analysis Batch: 30675**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
m-Dichlorobenzene (1,3-DCB)	0.500	0.648		ug/L		130	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.443	J	ug/L		89	50 - 150
Naphthalene	0.500	0.398	J	ug/L		80	50 - 150
n-Butylbenzene	0.500	0.497	J	ug/L		99	50 - 150
N-Propylbenzene	0.500	0.450	J	ug/L		90	50 - 150
o-Chlorotoluene	0.500	0.612		ug/L		122	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.519		ug/L		104	50 - 150
o-Xylene	0.500	0.605		ug/L		121	50 - 150
p-Chlorotoluene	0.500	0.449	J	ug/L		90	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.671		ug/L		134	50 - 150
p-Isopropyltoluene	0.500	0.667		ug/L		133	50 - 150
sec-Butylbenzene	0.500	0.717		ug/L		143	50 - 150
Styrene	0.500	0.566		ug/L		113	50 - 150
Tert-amyl methyl ether	0.500	0.383	J	ug/L		77	50 - 150
1,3-Dichloropropene, Total	1.00	1.18		ug/L		118	50 - 150
Tert-butyl ethyl ether	0.500	0.491	J	ug/L		98	50 - 150
tert-Butylbenzene	0.500	0.547		ug/L		109	50 - 150
Tetrachloroethene (PCE)	0.500	0.524		ug/L		105	50 - 150
Toluene	0.500	0.614		ug/L		123	50 - 150
trans-1,2-Dichloroethylene	0.500	0.564		ug/L		113	50 - 150
trans-1,3-Dichloropropene	0.500	0.589		ug/L		118	50 - 150
Trichloroethylene (TCE)	0.500	0.479	J	ug/L		96	50 - 150
Bromoethane	0.500	0.695		ug/L		139	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.545		ug/L		109	50 - 150
Trichlorotrifluoroethane	0.500	0.507		ug/L		101	50 - 150
Diisopropyl ether	0.500	0.516	J	ug/L		103	50 - 150
Vinyl Chloride (VC)	0.500	0.489		ug/L		98	50 - 150
Xylenes, Total	1.50	1.40		ug/L		94	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	130		70 - 130
Toluene-d8 (Surr)	97		70 - 130

**Lab Sample ID: MB 380-30956/8**  
**Matrix: Water**  
**Analysis Batch: 30956**

**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	ND		0.50	ug/L			01/30/23 14:05	1
1,1,1-Trichloroethane	ND		0.50	ug/L			01/30/23 14:05	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			01/30/23 14:05	1
1,1,2-Trichloroethane	ND		0.50	ug/L			01/30/23 14:05	1
1,1-Dichloroethane	ND		0.50	ug/L			01/30/23 14:05	1
1,1-Dichloroethylene	ND		0.50	ug/L			01/30/23 14:05	1
1,1-Dichloropropene	ND		0.50	ug/L			01/30/23 14:05	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			01/30/23 14:05	1
1,2,3-Trichloropropane	ND		0.50	ug/L			01/30/23 14:05	1

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30956/8**  
**Matrix: Water**  
**Analysis Batch: 30956**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		0.50	ug/L			01/30/23 14:05	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			01/30/23 14:05	1
1,2-Dichloroethane	ND		0.50	ug/L			01/30/23 14:05	1
1,2-Dichloropropane	ND		0.50	ug/L			01/30/23 14:05	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			01/30/23 14:05	1
1,3-Dichloropropane	ND		0.50	ug/L			01/30/23 14:05	1
2,2-Dichloropropane	ND		0.50	ug/L			01/30/23 14:05	1
2-Butanone (MEK)	ND		5.0	ug/L			01/30/23 14:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			01/30/23 14:05	1
Acetone	ND		500	ug/L			01/30/23 14:05	1
Benzene	ND		0.50	ug/L			01/30/23 14:05	1
Bromobenzene	ND		0.50	ug/L			01/30/23 14:05	1
Bromochloromethane	ND		0.50	ug/L			01/30/23 14:05	1
Bromodichloromethane	ND		0.50	ug/L			01/30/23 14:05	1
Bromoform	ND		0.50	ug/L			01/30/23 14:05	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			01/30/23 14:05	1
Carbon disulfide	ND		0.50	ug/L			01/30/23 14:05	1
Carbon tetrachloride	ND		0.50	ug/L			01/30/23 14:05	1
Chlorobenzene	ND		0.50	ug/L			01/30/23 14:05	1
Chlorodibromomethane	ND		0.50	ug/L			01/30/23 14:05	1
Chloroethane	ND		0.50	ug/L			01/30/23 14:05	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			01/30/23 14:05	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			01/30/23 14:05	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			01/30/23 14:05	1
Dibromomethane	ND		0.50	ug/L			01/30/23 14:05	1
Dichlorodifluoromethane	ND		0.50	ug/L			01/30/23 14:05	1
Dichloromethane	ND		0.50	ug/L			01/30/23 14:05	1
Ethylbenzene	ND		0.50	ug/L			01/30/23 14:05	1
Hexachlorobutadiene	ND		0.50	ug/L			01/30/23 14:05	1
Isopropy benzene	ND		0.50	ug/L			01/30/23 14:05	1
m,p-Xylenes	ND		0.50	ug/L			01/30/23 14:05	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			01/30/23 14:05	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			01/30/23 14:05	1
Naphthalene	ND		0.50	ug/L			01/30/23 14:05	1
n-Butylbenzene	ND		0.50	ug/L			01/30/23 14:05	1
N-Propylbenzene	ND		0.50	ug/L			01/30/23 14:05	1
o-Chlorotoluene	ND		0.50	ug/L			01/30/23 14:05	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			01/30/23 14:05	1
o-Xylene	ND		0.50	ug/L			01/30/23 14:05	1
p-Chlorotoluene	ND		0.50	ug/L			01/30/23 14:05	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			01/30/23 14:05	1
p-Isopropyltoluene	ND		0.50	ug/L			01/30/23 14:05	1
sec-Butylbenzene	ND		0.50	ug/L			01/30/23 14:05	1
Styrene	ND		0.50	ug/L			01/30/23 14:05	1
Tert-amyl methyl ether	ND		3.0	ug/L			01/30/23 14:05	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			01/30/23 14:05	1
Tert-butyl ethyl ether	ND		3.0	ug/L			01/30/23 14:05	1
tert-Butylbenzene	ND		0.50	ug/L			01/30/23 14:05	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			01/30/23 14:05	1

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30956/8**  
**Matrix: Water**  
**Analysis Batch: 30956**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.50	ug/L			01/30/23 14:05	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			01/30/23 14:05	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			01/30/23 14:05	1
Trichloroethylene (TCE)	ND		0.50	ug/L			01/30/23 14:05	1
Bromoethane	ND		0.50	ug/L			01/30/23 14:05	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			01/30/23 14:05	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			01/30/23 14:05	1
Trichlorotrifluoroethane	ND		0.50	ug/L			01/30/23 14:05	1
Diisopropyl ether	ND		3.0	ug/L			01/30/23 14:05	1
Vinyl Chloride (VC)	ND		0.30	ug/L			01/30/23 14:05	1
Xylenes, Total	ND		0.50	ug/L			01/30/23 14:05	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		01/30/23 14:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		01/30/23 14:05	1
4-Bromofluorobenzene (Surr)	92		70 - 130		01/30/23 14:05	1
Toluene-d8 (Surr)	79		70 - 130		01/30/23 14:05	1

**Lab Sample ID: LCS 380-30956/4**  
**Matrix: Water**  
**Analysis Batch: 30956**

**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	5.10		ug/L		102	70 - 130
1,1,1-Trichloroethane	5.00	5.15		ug/L		103	70 - 130
1,1,1,2-Tetrachloroethane	5.00	4.99		ug/L		100	70 - 130
1,1,2-Trichloroethane	5.00	4.80		ug/L		96	70 - 130
1,1-Dichloroethane	5.00	4.97		ug/L		99	70 - 130
1,1-Dichlorethylene	5.00	4.83		ug/L		97	70 - 130
1,1-Dichloropropene	5.00	4.90		ug/L		98	70 - 130
1,2,3-Trichlorobenzene	5.00	4.81		ug/L		96	70 - 130
1,2,3-Trichloropropane	5.00	4.83		ug/L		97	70 - 130
1,2,4-Trichlorobenzene	5.00	4.61		ug/L		92	70 - 130
1,2,4-Trimethy benzene	5.00	5.31		ug/L		106	70 - 130
1,2-Dichloroethane	5.00	5.11		ug/L		102	70 - 130
1,2-Dichloropropane	5.00	4.99		ug/L		100	70 - 130
1,3,5-Trimethy benzene	5.00	5.25		ug/L		105	70 - 130
1,3-Dichloropropane	5.00	5.00		ug/L		100	70 - 130
2,2-Dichloropropane	5.00	6.19		ug/L		124	70 - 130
2-Butanone (MEK)	50.0	41.6		ug/L		83	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	51.4		ug/L		103	70 - 130
Acetone	50.0	45.4	J	ug/L		91	70 - 130
Benzene	5.00	5.10		ug/L		102	70 - 130
Bromobenzene	5.00	4.94		ug/L		99	70 - 130
Bromochloromethane	5.00	5.19		ug/L		104	70 - 130
Bromodichloromethane	5.00	5.19		ug/L		104	70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30956/4**  
**Matrix: Water**  
**Analysis Batch: 30956**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromoform	5.00	5.65		ug/L		113	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.03		ug/L		101	70 - 130
Carbon disulfide	5.00	4.90		ug/L		98	70 - 130
Carbon tetrachloride	5.00	5.12		ug/L		102	70 - 130
Chlorobenzene	5.00	5.06		ug/L		101	70 - 130
Chlorodibromomethane	5.00	5.25		ug/L		105	70 - 130
cis-1,3-Dichloropropene	5.00	4.99		ug/L		100	70 - 130
Dichloromethane	5.00	4.90		ug/L		98	70 - 130
Ethylbenzene	5.00	5.11		ug/L		102	70 - 130
Hexachlorobutadiene	5.00	5.02		ug/L		100	70 - 130
Isopropyl benzene	5.00	5.01		ug/L		100	70 - 130
m,p-Xylenes	10.0	11.0		ug/L		110	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.09		ug/L		102	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	5.54		ug/L		111	70 - 130
Naphthalene	5.00	4.43		ug/L		89	70 - 130
n-Butylbenzene	5.00	5.05		ug/L		101	70 - 130
N-Propylbenzene	5.00	5.24		ug/L		105	70 - 130
o-Chlorotoluene	5.00	5.17		ug/L		103	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.86		ug/L		97	70 - 130
o-Xylene	5.00	5.13		ug/L		103	70 - 130
p-Chlorotoluene	5.00	5.38		ug/L		108	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.18		ug/L		104	70 - 130
p-Isopropyltoluene	5.00	5.40		ug/L		108	70 - 130
sec-Butylbenzene	5.00	5.32		ug/L		106	70 - 130
Styrene	5.00	5.28		ug/L		106	70 - 130
Tert-amyl methyl ether	5.00	5.90		ug/L		118	70 - 130
1,3-Dichloropropene, Total	10.0	10.8		ug/L		108	70 - 130
Tert-butyl ethyl ether	5.00	5.65		ug/L		113	70 - 130
tert-Butylbenzene	5.00	5.10		ug/L		102	70 - 130
Tetrachloroethene (PCE)	5.00	4.98		ug/L		100	70 - 130
Toluene	5.00	5.16		ug/L		103	70 - 130
trans-1,2-Dichloroethylene	5.00	5.01		ug/L		100	70 - 130
trans-1,3-Dichloropropene	5.00	5.79		ug/L		116	70 - 130
Trichloroethylene (TCE)	5.00	5.23		ug/L		105	70 - 130
Bromoethane	5.00	4.72		ug/L		94	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.18		ug/L		104	70 - 130
Trichlorotrifluoroethane	5.00	4.73		ug/L		95	70 - 130
Diisopropyl ether	5.00	4.95		ug/L		99	70 - 130
Vinyl Chloride (VC)	5.00	4.78		ug/L		96	70 - 130
Xylenes, Total	15.0	16.1		ug/L		108	70 - 130

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

# QC Sample Results

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

Job ID: 380-34654-1

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

Lab Sample ID: LCSD 380-30956/5

Matrix: Water

Analysis Batch: 30956

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	4.76		ug/L		95	70 - 130	7	20
1,1,1-Trichloroethane	5.00	4.59		ug/L		92	70 - 130	11	20
1,1,2,2-Tetrachloroethane	5.00	4.98		ug/L		100	70 - 130	0	20
1,1,2-Trichloroethane	5.00	4.74		ug/L		95	70 - 130	1	20
1,1-Dichloroethane	5.00	4.48		ug/L		90	70 - 130	10	20
1,1-Dichlorethylene	5.00	4.48		ug/L		90	70 - 130	8	20
1,1-Dichloropropene	5.00	4.54		ug/L		91	70 - 130	8	20
1,2,3-Trichlorobenzene	5.00	5.15		ug/L		103	70 - 130	7	20
1,2,3-Trichloropropane	5.00	4.86		ug/L		97	70 - 130	1	20
1,2,4-Trichlorobenzene	5.00	4.91		ug/L		98	70 - 130	6	20
1,2,4-Trimethy benzene	5.00	5.16		ug/L		103	70 - 130	3	20
1,2-Dichloroethane	5.00	4.74		ug/L		95	70 - 130	7	20
1,2-Dichloropropane	5.00	4.61		ug/L		92	70 - 130	8	20
1,3,5-Trimethy benzene	5.00	5.11		ug/L		102	70 - 130	3	20
1,3-Dichloropropane	5.00	4.68		ug/L		94	70 - 130	7	20
2,2-Dichloropropane	5.00	5.44		ug/L		109	70 - 130	13	20
2-Butanone (MEK)	50.0	39.2		ug/L		78	70 - 130	6	20
4-Methyl-2-pentanone (MIBK)	50.0	48.8		ug/L		98	70 - 130	5	20
Acetone	50.0	42.7	J	ug/L		85	70 - 130	6	20
Benzene	5.00	4.83		ug/L		97	70 - 130	5	20
Bromobenzene	5.00	4.84		ug/L		97	70 - 130	2	20
Bromochloromethane	5.00	4.95		ug/L		99	70 - 130	5	20
Bromodichloromethane	5.00	4.73		ug/L		95	70 - 130	9	20
Bromoform	5.00	5.53		ug/L		111	70 - 130	2	20
Bromomethane (Methyl Bromide)	5.00	4.14		ug/L		83	70 - 130	19	20
Carbon disulfide	5.00	4.54		ug/L		91	70 - 130	8	20
Carbon tetrachloride	5.00	4.76		ug/L		95	70 - 130	7	20
Chlorobenzene	5.00	4.66		ug/L		93	70 - 130	8	20
Chlorodibromomethane	5.00	4.83		ug/L		97	70 - 130	8	20
cis-1,3-Dichloropropene	5.00	4.88		ug/L		98	70 - 130	2	20
Dichloromethane	5.00	4.57		ug/L		91	70 - 130	7	20
Ethylbenzene	5.00	4.77		ug/L		95	70 - 130	7	20
Hexachlorobutadiene	5.00	4.84		ug/L		97	70 - 130	4	20
Isopropy benzene	5.00	4.94		ug/L		99	70 - 130	1	20
m,p-Xylenes	10.0	10.3		ug/L		103	70 - 130	7	20
m-Dichlorobenzene (1,3-DCB)	5.00	4.95		ug/L		99	70 - 130	3	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.02		ug/L		100	70 - 130	10	20
Naphthalene	5.00	4.92		ug/L		98	70 - 130	10	20
n-Butylbenzene	5.00	5.01		ug/L		100	70 - 130	1	20
N-Propylbenzene	5.00	4.92		ug/L		98	70 - 130	6	20
o-Chlorotoluene	5.00	5.04		ug/L		101	70 - 130	3	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.97		ug/L		99	70 - 130	2	20
o-Xylene	5.00	4.87		ug/L		97	70 - 130	5	20
p-Chlorotoluene	5.00	4.96		ug/L		99	70 - 130	8	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.96		ug/L		99	70 - 130	4	20
p-Isopropyltoluene	5.00	5.30		ug/L		106	70 - 130	2	20
sec-Butylbenzene	5.00	5.14		ug/L		103	70 - 130	4	20
Styrene	5.00	4.96		ug/L		99	70 - 130	6	20

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30956/5**  
**Matrix: Water**  
**Analysis Batch: 30956**

**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
Tert-amyl methyl ether	5.00	5.54		ug/L		111	70 - 130	6	20
1,3-Dichloropropene, Total	10.0	10.2		ug/L		102	70 - 130	5	20
Tert-butyl ethyl ether	5.00	5.45		ug/L		109	70 - 130	4	20
tert-Butylbenzene	5.00	5.00		ug/L		100	70 - 130	2	20
Tetrachloroethene (PCE)	5.00	4.68		ug/L		94	70 - 130	6	20
Toluene	5.00	4.82		ug/L		96	70 - 130	7	20
trans-1,2-Dichloroethylene	5.00	4.58		ug/L		92	70 - 130	9	20
trans-1,3-Dichloropropene	5.00	5.35		ug/L		107	70 - 130	8	20
Trichloroethylene (TCE)	5.00	4.83		ug/L		97	70 - 130	8	20
Bromoethane	5.00	4.24		ug/L		85	70 - 130	11	20
Trichlorofluoromethane (Freon 11)	5.00	4.78		ug/L		96	70 - 130	8	20
Trichlorotrifluoroethane	5.00	4.44		ug/L		89	70 - 130	6	20
Diisopropyl ether	5.00	4.54		ug/L		91	70 - 130	9	20
Vinyl Chloride (VC)	5.00	4.24		ug/L		85	70 - 130	12	20
Xylenes, Total	15.0	15.2		ug/L		101	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Toluene-d8 (Surr)	100		70 - 130

**Lab Sample ID: MRL 380-30956/3**  
**Matrix: Water**  
**Analysis Batch: 30956**

**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	0.428	J	ug/L		86	50 - 150
Vinyl Chloride (VC)	0.250	0.272	J	ug/L		109	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	104		70 - 130
Toluene-d8 (Surr)	89		70 - 130

**Lab Sample ID: MRL 380-30956/7**  
**Matrix: Water**  
**Analysis Batch: 30956**

**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	0.499	J	ug/L		100	50 - 150
1,1,1-Trichloroethane	0.500	0.530		ug/L		106	50 - 150
1,1,1,2,2-Tetrachloroethane	0.500	0.593		ug/L		119	50 - 150
1,1,2-Trichloroethane	0.500	0.536		ug/L		107	50 - 150
1,1-Dichloroethane	0.500	0.543		ug/L		109	50 - 150
1,1-Dichloroethylene	0.500	0.592		ug/L		118	50 - 150
1,1-Dichloropropene	0.500	0.586		ug/L		117	50 - 150
1,2,3-Trichlorobenzene	0.500	0.572		ug/L		114	50 - 150



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30956/7**  
**Matrix: Water**  
**Analysis Batch: 30956**

**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	0.570		ug/L		114	50 - 150
1,2,4-Trichlorobenzene	0.500	0.548		ug/L		110	50 - 150
1,2,4-Trimethy benzene	0.500	0.505		ug/L		101	50 - 150
1,2-Dichloroethane	0.500	0.550		ug/L		110	50 - 150
1,2-Dichloropropane	0.500	0.532		ug/L		106	50 - 150
1,3,5-Trimethy benzene	0.500	0.492	J	ug/L		98	50 - 150
1,3-Dichloropropane	0.500	0.530		ug/L		106	50 - 150
2,2-Dichloropropane	0.500	0.706		ug/L		141	50 - 150
2-Butanone (MEK)	5.00	4.81	J	ug/L		96	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	4.59	J	ug/L		92	50 - 150
Acetone	5.00	ND		ug/L		67	50 - 150
Benzene	0.500	0.566		ug/L		113	50 - 150
Bromobenzene	0.500	0.578		ug/L		116	50 - 150
Bromochloromethane	0.500	0.544		ug/L		109	50 - 150
Bromodichloromethane	0.500	0.493	J	ug/L		99	50 - 150
Bromoform	0.500	0.639		ug/L		128	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.487	J	ug/L		97	50 - 150
Carbon disulfide	0.500	0.481	J	ug/L		96	50 - 150
Carbon tetrachloride	0.500	0.498	J	ug/L		100	50 - 150
Chlorobenzene	0.500	0.511		ug/L		102	50 - 150
Chlorodibromomethane	0.500	0.469	J	ug/L		94	50 - 150
cis-1,3-Dichloropropene	0.500	0.499	J	ug/L		100	50 - 150
Dichloromethane	0.500	0.555		ug/L		111	50 - 150
Ethylbenzene	0.500	0.456	J	ug/L		91	50 - 150
Hexachlorobutadiene	0.500	0.615		ug/L		123	50 - 150
Isopropy benzene	0.500	0.516		ug/L		103	50 - 150
m,p-Xylenes	1.00	0.880		ug/L		88	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.621		ug/L		124	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.577		ug/L		115	50 - 150
Naphthalene	0.500	0.476	J	ug/L		95	50 - 150
n-Butylbenzene	0.500	0.529		ug/L		106	50 - 150
N-Propylbenzene	0.500	0.471	J	ug/L		94	50 - 150
o-Chlorotoluene	0.500	0.584		ug/L		117	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.621		ug/L		124	50 - 150
o-Xylene	0.500	0.453	J	ug/L		91	50 - 150
p-Chlorotoluene	0.500	0.472	J	ug/L		94	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.580		ug/L		116	50 - 150
p-Isopropyltoluene	0.500	0.480	J	ug/L		96	50 - 150
sec-Butylbenzene	0.500	0.512		ug/L		102	50 - 150
Styrene	0.500	0.407	J	ug/L		81	50 - 150
Tert-amyl methyl ether	0.500	0.614	J	ug/L		123	50 - 150
1,3-Dichloropropene, Total	1.00	1.01		ug/L		101	50 - 150
Tert-butyl ethyl ether	0.500	0.618	J	ug/L		124	50 - 150
tert-Butylbenzene	0.500	0.478	J	ug/L		96	50 - 150
Tetrachloroethene (PCE)	0.500	0.557		ug/L		111	50 - 150
Toluene	0.500	0.490	J	ug/L		98	50 - 150
trans-1,2-Dichloroethylene	0.500	0.568		ug/L		114	50 - 150
trans-1,3-Dichloropropene	0.500	0.510		ug/L		102	50 - 150
Trichloroethylene (TCE)	0.500	0.572		ug/L		114	50 - 150

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30956/7**  
**Matrix: Water**  
**Analysis Batch: 30956**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromoethane	0.500	0.555		ug/L		111	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.484	J	ug/L		97	50 - 150
Trichlorotrifluoroethane	0.500	0.554		ug/L		111	50 - 150
Diisopropyl ether	0.500	0.567	J	ug/L		113	50 - 150
Vinyl Chloride (VC)	0.500	0.497		ug/L		99	50 - 150
Xylenes, Total	1.50	1.33		ug/L		89	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Toluene-d8 (Surr)	91		70 - 130

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

**Lab Sample ID: MB 380-30110/11**  
**Matrix: Water**  
**Analysis Batch: 30110**

**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)	ND		2.0	ug/L			01/18/23 18:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		70 - 130		01/18/23 18:32	1
4-Bromofluorobenzene (Surr)	104		70 - 130		01/18/23 18:32	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		01/18/23 18:32	1

**Lab Sample ID: LCS 380-30110/8**  
**Matrix: Water**  
**Analysis Batch: 30110**

**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	4.74		ug/L		95	70 - 130

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

**Lab Sample ID: LCSD 380-30110/9**  
**Matrix: Water**  
**Analysis Batch: 30110**

**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	4.27		ug/L		85	70 - 130	10	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	97		70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30110/9**  
**Matrix: Water**  
**Analysis Batch: 30110**

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCSD Qualifier</i>	<i>LCSD Limits</i>
4-Bromofluorobenzene (Surr)	99		70 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 130

**Lab Sample ID: MRL 380-30110/10**  
**Matrix: Water**  
**Analysis Batch: 30110**

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

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Tertiary Butyl Alcohol (TBA)	2.00	1.63	J	ug/L		81	50 - 150

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL Qualifier</i>	<i>MRL Limits</i>
Toluene-d8 (Surr)	97		50 - 150
4-Bromofluorobenzene (Surr)	106		50 - 150
1,2-Dichloroethane-d4 (Surr)	100		50 - 150

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

**Lab Sample ID: MB 380-30258/1-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
2,4'-DDD	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
2,4'-DDE	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
2,4'-DDT	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
2,4-Dinitrotoluene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
2,6-Dinitrotoluene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
4,4'-DDD	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
4,4'-DDE	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
4,4'-DDT	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Acenaphthene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Acenaphthylene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Acetochlor	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Alachlor	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
alpha-BHC	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
alpha-Chlordane	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Anthracene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 16:25	1
Atrazine	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Benz(a)anthracene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Benzo[a]pyrene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 16:25	1
Benzo[b]fluoranthene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 16:25	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Benzo[k]fluoranthene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 16:25	1
beta-BHC	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		01/20/23 05:58	01/20/23 16:25	1
Bromacil	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Butachlor	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Butylbenzylphthalate	ND		0.49	ug/L		01/20/23 05:58	01/20/23 16:25	1

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30258/1-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzilate	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Chloroneb	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Chlorpyrifos	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Chrysene	ND		0.020	ug/L		01/20/23 05:58	01/20/23 16:25	1
delta-BHC	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		01/20/23 05:58	01/20/23 16:25	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Diclorvos (DDVP)	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Dieldrin	ND		0.20	ug/L		01/20/23 05:58	01/20/23 16:25	1
Diethylphthalate	ND		0.49	ug/L		01/20/23 05:58	01/20/23 16:25	1
Dimethylphthalate	ND		0.49	ug/L		01/20/23 05:58	01/20/23 16:25	1
Di-n-butyl phthalate	ND		0.99	ug/L		01/20/23 05:58	01/20/23 16:25	1
Di-n-octyl phthalate	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Endosulfan I (Alpha)	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Endosulfan II (Beta)	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Endosulfan sulfate	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Endrin	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Endrin aldehyde	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
EPTC	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Fluoranthene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Fluorene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
gamma-BHC (Lindane)	ND		0.039	ug/L		01/20/23 05:58	01/20/23 16:25	1
gamma-Chlordane	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Heptachlor	ND		0.039	ug/L		01/20/23 05:58	01/20/23 16:25	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Hexachlorobenzene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Isophorone	ND		0.49	ug/L		01/20/23 05:58	01/20/23 16:25	1
Malathion	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Methoxychlor	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Metolachlor	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Metribuzin	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Molinate	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Naphthalene	ND		0.30	ug/L		01/20/23 05:58	01/20/23 16:25	1
Parathion	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Phenanthrene	ND		0.039	ug/L		01/20/23 05:58	01/20/23 16:25	1
Propachlor	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Pyrene	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Simazine	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Terbacil	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Terbutylazine	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
Thiobencarb	ND		0.20	ug/L		01/20/23 05:58	01/20/23 16:25	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		01/20/23 05:58	01/20/23 16:25	1
trans-Nonachlor	ND		0.049	ug/L		01/20/23 05:58	01/20/23 16:25	1
Trifluralin	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1
1-Methylnaphthalene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30258/1-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
2-Methylnaphthalene	ND		0.099	ug/L		01/20/23 05:58	01/20/23 16:25	1	
<i>Tentatively Identified Compound</i>	<i>Est. Result</i>	<i>MB 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	0.756	T J	ug/L		2.26	N/A	01/20/23 05:58	01/20/23 16:25	1
Decane	1.40	T J N	ug/L		2.42	124-18-5	01/20/23 05:58	01/20/23 16:25	1
9-Octadecenamide, (Z)-	0.530	T J N	ug/L		7.57	301-02-0	01/20/23 05:58	01/20/23 16:25	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	101		70 - 130				01/20/23 05:58	01/20/23 16:25	1
Perylene-d12	93		70 - 130				01/20/23 05:58	01/20/23 16:25	1
Triphenylphosphate	105		70 - 130				01/20/23 05:58	01/20/23 16:25	1

**Lab Sample ID: LCS 380-30258/3-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.98	2.32		ug/L		117	70 - 130
2,4'-DDE	1.98	2.04		ug/L		103	70 - 130
2,4'-DDT	1.98	2.28		ug/L		115	70 - 130
2,4-Dinitrotoluene	1.98	1.79		ug/L		90	70 - 130
2,6-Dinitrotoluene	1.98	1.73		ug/L		87	70 - 130
4,4'-DDD	1.98	2.26		ug/L		114	70 - 130
4,4'-DDE	1.98	2.32		ug/L		117	70 - 130
4,4'-DDT	1.98	2.07		ug/L		104	70 - 130
Acenaphthene	1.98	1.81		ug/L		92	70 - 130
Acenaphthylene	1.98	1.75		ug/L		88	70 - 130
Acetochlor	1.98	2.04		ug/L		103	70 - 130
Alachlor	1.98	2.16		ug/L		109	70 - 130
alpha-BHC	1.98	2.06		ug/L		104	70 - 130
alpha-Chlordane	1.98	2.04		ug/L		103	70 - 130
Anthracene	1.98	1.84		ug/L		93	70 - 130
Atrazine	1.98	2.16		ug/L		109	70 - 130
Benz(a)anthracene	1.98	2.17		ug/L		110	70 - 130
Benzo[a]pyrene	1.98	1.98		ug/L		100	70 - 130
Benzo[b]fluoranthene	1.98	2.06		ug/L		104	70 - 130
Benzo[g,h,i]perylene	1.98	2.04		ug/L		103	70 - 130
Benzo[k]fluoranthene	1.98	2.09		ug/L		106	70 - 130
beta-BHC	1.98	2.12		ug/L		107	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	1.94		ug/L		98	70 - 130
Bromacil	1.98	2.37		ug/L		120	70 - 130
Butachlor	1.98	2.31		ug/L		117	70 - 130
Butylbenzylphthalate	1.98	2.38		ug/L		120	70 - 130
Chlorobenzilate	1.98	2.27		ug/L		115	70 - 130
Chloroneb	1.98	1.91		ug/L		97	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	2.24		ug/L		113	70 - 130
Chlorpyrifos	1.98	2.29		ug/L		116	70 - 130
Chrysene	1.98	1.99		ug/L		100	70 - 130

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30258/3-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
delta-BHC	1.98	2.13		ug/L		107	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.31		ug/L		117	70 - 130
Dibenz(a,h)anthracene	1.98	1.98		ug/L		100	70 - 130
Diclorvos (DDVP)	1.98	1.97		ug/L		99	70 - 130
Dieldrin	1.98	2.27		ug/L		115	70 - 130
Diethylphthalate	1.98	1.92		ug/L		97	70 - 130
Dimethylphthalate	1.98	1.87		ug/L		94	70 - 130
Di-n-butyl phthalate	3.96	4.32		ug/L		109	70 - 130
Di-n-octyl phthalate	1.98	1.90		ug/L		96	70 - 130
Endosulfan I (Alpha)	1.98	2.01		ug/L		101	70 - 130
Endosulfan II (Beta)	1.98	2.27		ug/L		115	70 - 130
Endosulfan sulfate	1.98	2.52		ug/L		127	70 - 130
Endrin	1.98	2.56		ug/L		129	70 - 130
Endrin aldehyde	1.98	2.00		ug/L		101	70 - 130
EPTC	1.98	2.07		ug/L		105	70 - 130
Fluoranthene	1.98	2.07		ug/L		105	70 - 130
Fluorene	1.98	1.87		ug/L		94	70 - 130
gamma-BHC (Lindane)	1.98	2.07		ug/L		105	70 - 130
gamma-Chlordane	1.98	1.88		ug/L		95	70 - 130
Heptachlor	1.98	2.21		ug/L		112	70 - 130
Heptachlor epoxide (isomer B)	1.98	2.01		ug/L		101	70 - 130
Hexachlorobenzene	1.98	1.94		ug/L		98	70 - 130
Hexachlorocyclopentadiene	1.98	1.96		ug/L		99	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	1.99		ug/L		101	70 - 130
Isophorone	1.98	1.78		ug/L		90	70 - 130
Malathion	1.98	2.26		ug/L		114	70 - 130
Methoxychlor	1.98	2.37		ug/L		120	70 - 130
Metolachlor	1.98	2.32		ug/L		117	70 - 130
Metribuzin	1.98	2.23		ug/L		113	70 - 130
Molinate	1.98	2.09		ug/L		106	70 - 130
Naphthalene	1.98	1.80		ug/L		91	70 - 130
Parathion	1.98	2.24		ug/L		113	70 - 130
Pendimethalin (Penoxaline)	1.98	2.24		ug/L		113	70 - 130
Phenanthrene	1.98	1.86		ug/L		94	70 - 130
Propachlor	1.98	2.07		ug/L		104	70 - 130
Pyrene	1.98	2.11		ug/L		107	70 - 130
Simazine	1.98	2.23		ug/L		113	70 - 130
Terbacil	1.98	2.24		ug/L		113	70 - 130
Terbutylazine	1.98	2.15		ug/L		109	70 - 130
Thiobencarb	1.98	2.33		ug/L		118	70 - 130
trans-Nonachlor	1.98	2.15		ug/L		109	70 - 130
Trifluralin	1.98	2.11		ug/L		107	70 - 130
1-Methylnaphthalene	1.98	1.83		ug/L		92	70 - 130
2-Methylnaphthalene	1.98	1.86		ug/L		94	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	95		70 - 130

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30258/3-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Triphenylphosphate	108		70 - 130

**Lab Sample ID: LCSD 380-30258/4-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.97	2.31		ug/L		117	70 - 130	1	20
2,4'-DDE	1.97	2.02		ug/L		103	70 - 130	1	20
2,4'-DDT	1.97	2.25		ug/L		114	70 - 130	1	20
2,4-Dinitrotoluene	1.97	1.83		ug/L		93	70 - 130	2	20
2,6-Dinitrotoluene	1.97	1.79		ug/L		91	70 - 130	4	20
4,4'-DDD	1.97	2.24		ug/L		114	70 - 130	1	20
4,4'-DDE	1.97	2.30		ug/L		117	70 - 130	1	20
4,4'-DDT	1.97	2.11		ug/L		107	70 - 130	2	20
Acenaphthene	1.97	1.86		ug/L		95	70 - 130	3	20
Acenaphthylene	1.97	1.82		ug/L		92	70 - 130	4	20
Acetochlor	1.97	2.05		ug/L		104	70 - 130	1	20
Alachlor	1.97	2.17		ug/L		110	70 - 130	1	20
alpha-BHC	1.97	2.14		ug/L		109	70 - 130	4	20
alpha-Chlordane	1.97	2.00		ug/L		101	70 - 130	2	20
Anthracene	1.97	1.84		ug/L		93	70 - 130	0	20
Atrazine	1.97	2.17		ug/L		110	70 - 130	0	20
Benz(a)anthracene	1.97	2.17		ug/L		110	70 - 130	0	20
Benzo[a]pyrene	1.97	2.06		ug/L		105	70 - 130	4	20
Benzo[b]fluoranthene	1.97	2.15		ug/L		109	70 - 130	4	20
Benzo[g,h,i]perylene	1.97	1.99		ug/L		101	70 - 130	3	20
Benzo[k]fluoranthene	1.97	2.09		ug/L		106	70 - 130	0	20
beta-BHC	1.97	2.14		ug/L		109	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	1.97	1.93		ug/L		98	70 - 130	0	20
Bromacil	1.97	2.35		ug/L		119	70 - 130	1	20
Butachlor	1.97	2.32		ug/L		118	70 - 130	0	20
Butylbenzylphthalate	1.97	2.37		ug/L		120	70 - 130	1	20
Chlorobenzilate	1.97	2.29		ug/L		116	70 - 130	1	20
Chloroneb	1.97	1.94		ug/L		99	70 - 130	1	20
Chlorothalonil (Draconil, Bravo)	1.97	2.22		ug/L		113	70 - 130	1	20
Chlorpyrifos	1.97	2.27		ug/L		116	70 - 130	1	20
Chrysene	1.97	2.01		ug/L		102	70 - 130	1	20
delta-BHC	1.97	2.13		ug/L		108	70 - 130	0	20
Di(2-ethylhexyl)adipate	1.97	2.29		ug/L		116	70 - 130	1	20
Dibenz(a,h)anthracene	1.97	2.04		ug/L		103	70 - 130	3	20
Diclorvos (DDVP)	1.97	2.01		ug/L		102	70 - 130	2	20
Dieldrin	1.97	2.27		ug/L		115	70 - 130	0	20
Diethylphthalate	1.97	1.94		ug/L		99	70 - 130	1	20
Dimethylphthalate	1.97	1.94		ug/L		99	70 - 130	4	20
Di-n-butyl phthalate	3.94	4.36		ug/L		111	70 - 130	1	20
Di-n-octyl phthalate	1.97	1.87		ug/L		95	70 - 130	1	20
Endosulfan I (Alpha)	1.97	1.98		ug/L		101	70 - 130	1	20

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30258/4-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Endosulfan II (Beta)	1.97	2.32		ug/L		118	70 - 130	2	20	
Endosulfan sulfate	1.97	2.56		ug/L		130	70 - 130	2	20	
Endrin	1.97	2.56		ug/L		130	70 - 130	0	20	
Endrin aldehyde	1.97	1.90		ug/L		97	70 - 130	5	20	
EPTC	1.97	2.17		ug/L		110	70 - 130	5	20	
Fluoranthene	1.97	2.05		ug/L		104	70 - 130	1	20	
Fluorene	1.97	1.92		ug/L		98	70 - 130	3	20	
gamma-BHC (Lindane)	1.97	2.07		ug/L		105	70 - 130	0	20	
gamma-Chlordane	1.97	1.89		ug/L		96	70 - 130	1	20	
Heptachlor	1.97	2.21		ug/L		112	70 - 130	0	20	
Heptachlor epoxide (isomer B)	1.97	1.98		ug/L		101	70 - 130	1	20	
Hexachlorobenzene	1.97	1.94		ug/L		98	70 - 130	0	20	
Hexachlorocyclopentadiene	1.97	2.00		ug/L		102	70 - 130	2	20	
Indeno[1,2,3-cd]pyrene	1.97	2.03		ug/L		103	70 - 130	2	20	
Isophorone	1.97	1.89		ug/L		96	70 - 130	7	20	
Malathion	1.97	2.26		ug/L		115	70 - 130	0	20	
Methoxychlor	1.97	2.45		ug/L		125	70 - 130	3	20	
Metolachlor	1.97	2.29		ug/L		116	70 - 130	1	20	
Metribuzin	1.97	2.22		ug/L		113	70 - 130	1	20	
Molinate	1.97	2.15		ug/L		109	70 - 130	3	20	
Naphthalene	1.97	1.84		ug/L		94	70 - 130	2	20	
Parathion	1.97	2.19		ug/L		111	70 - 130	2	20	
Pendimethalin (Penoxaline)	1.97	2.25		ug/L		114	70 - 130	0	20	
Phenanthrene	1.97	1.85		ug/L		94	70 - 130	1	20	
Propachlor	1.97	2.12		ug/L		108	70 - 130	2	20	
Pyrene	1.97	2.06		ug/L		105	70 - 130	2	20	
Simazine	1.97	2.25		ug/L		115	70 - 130	1	20	
Terbacil	1.97	2.19		ug/L		111	70 - 130	2	20	
Terbutylazine	1.97	2.19		ug/L		111	70 - 130	2	20	
Thiobencarb	1.97	2.26		ug/L		115	70 - 130	3	20	
trans-Nonachlor	1.97	2.10		ug/L		107	70 - 130	2	20	
Trifluralin	1.97	2.13		ug/L		108	70 - 130	1	20	
1-Methylnaphthalene	1.97	1.89		ug/L		96	70 - 130	4	20	
2-Methylnaphthalene	1.97	1.92		ug/L		97	70 - 130	3	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	97		70 - 130
Triphenylphosphate	107		70 - 130

**Lab Sample ID: MRL 380-30258/2-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
2,4'-DDD	0.0984	0.128		ug/L		130	50 - 150	
2,4'-DDE	0.0984	0.0953	J	ug/L		97	50 - 150	
2,4'-DDT	0.0984	0.0975	J	ug/L		99	50 - 150	

Eurofins Drinking Water Testing Pomona



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30258/2-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	0.0984	0.0687	J	ug/L		70	50 - 150
2,6-Dinitrotoluene	0.0984	0.0799	J	ug/L		81	50 - 150
4,4'-DDD	0.0984	0.0992		ug/L		101	50 - 150
4,4'-DDE	0.0984	0.111		ug/L		112	50 - 150
4,4'-DDT	0.0984	0.111		ug/L		113	50 - 150
Acenaphthene	0.0984	0.0999		ug/L		102	50 - 150
Acenaphthylene	0.0984	0.0954	J	ug/L		97	50 - 150
Acetochlor	0.0492	0.0490	J	ug/L		100	50 - 150
Alachlor	0.0492	0.0648		ug/L		132	50 - 150
alpha-BHC	0.0984	0.0932	J	ug/L		95	50 - 150
alpha-Chlordane	0.0246	ND		ug/L		108	50 - 150
Anthracene	0.0197	ND		ug/L		89	50 - 150
Atrazine	0.0492	0.0488	J	ug/L		99	50 - 150
Benz(a)anthracene	0.0492	0.0518		ug/L		105	50 - 150
Benzo[a]pyrene	0.0197	0.0164	J	ug/L		83	50 - 150
Benzo[b]fluoranthene	0.0197	0.0186	J	ug/L		95	50 - 150
Benzo[g,h,i]perylene	0.0492	0.0498		ug/L		101	50 - 150
Benzo[k]fluoranthene	0.0197	0.0176	J	ug/L		89	50 - 150
beta-BHC	0.0984	0.0990		ug/L		101	50 - 150
Bis(2-ethylhexyl) phthalate	0.591	0.695		ug/L		118	50 - 150
Bromacil	0.0984	0.114		ug/L		116	50 - 150
Butachlor	0.0492	0.0628		ug/L		128	50 - 150
Butylbenzylphthalate	0.148	0.204	J	ug/L		138	50 - 150
Chlorobenzilate	0.0984	0.145		ug/L		147	50 - 150
Chloroneb	0.0984	0.108		ug/L		110	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0984	0.146		ug/L		148	50 - 150
Chlorpyrifos	0.0492	0.0542		ug/L		110	50 - 150
Chrysene	0.0197	0.0206		ug/L		105	50 - 150
delta-BHC	0.0984	0.118		ug/L		120	50 - 150
Di(2-ethylhexyl)adipate	0.295	0.472	J ^3+	ug/L		160	50 - 150
Dibenz(a,h)anthracene	0.0492	0.0547		ug/L		111	50 - 150
Diclorvos (DDVP)	0.0492	0.0574		ug/L		117	50 - 150
Dieldrin	0.0984	0.105	J	ug/L		107	50 - 150
Diethylphthalate	0.148	0.168	J	ug/L		114	50 - 150
Dimethylphthalate	0.295	0.261	J	ug/L		89	50 - 150
Di-n-butyl phthalate	0.295	0.344	J	ug/L		117	49 - 243
Di-n-octyl phthalate	0.0984	0.123		ug/L		125	50 - 150
Endosulfan I (Alpha)	0.0984	0.0890	J	ug/L		90	50 - 150
Endosulfan II (Beta)	0.0984	0.137		ug/L		139	50 - 150
Endosulfan sulfate	0.0984	0.0840	J	ug/L		85	50 - 150
Endrin	0.0984	0.145		ug/L		147	50 - 150
Endrin aldehyde	0.0984	0.172	^3+	ug/L		174	50 - 150
EPTC	0.0984	0.114		ug/L		116	50 - 150
Fluoranthene	0.0492	0.0481	J	ug/L		98	50 - 150
Fluorene	0.0492	ND		ug/L		88	50 - 150
gamma-BHC (Lindane)	0.0394	0.0375	J	ug/L		95	50 - 150
gamma-Chlordane	0.0246	0.0374	J ^3+	ug/L		152	50 - 150
Heptachlor	0.0394	0.0445		ug/L		113	50 - 150
Heptachlor epoxide (isomer B)	0.0492	0.0864	^3+	ug/L		176	50 - 150

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30258/2-A**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	0.0492	0.0451	J	ug/L		92	50 - 150
Hexachlorocyclopentadiene	0.0492	0.0402	J	ug/L		82	50 - 150
Indeno[1,2,3-cd]pyrene	0.0492	0.0491		ug/L		100	50 - 150
Isophorone	0.0984	0.0936	J	ug/L		95	50 - 150
Malathion	0.0984	0.105		ug/L		106	50 - 150
Methoxychlor	0.0984	0.0930	J	ug/L		95	50 - 150
Metolachlor	0.0492	0.0607		ug/L		123	50 - 150
Metribuzin	0.0492	0.0678		ug/L		138	50 - 150
Molinate	0.0984	0.108		ug/L		110	50 - 150
Naphthalene	0.0984	0.109	J	ug/L		111	50 - 150
Parathion	0.0984	0.137		ug/L		140	50 - 150
Pendimethalin (Penoxaline)	0.0984	0.102		ug/L		104	50 - 150
Phenanthrene	0.0197	0.0197	J	ug/L		100	50 - 150
Propachlor	0.0492	0.0519		ug/L		105	50 - 150
Pyrene	0.0492	0.0493		ug/L		100	50 - 150
Simazine	0.0492	0.0512		ug/L		104	50 - 150
Terbacil	0.0984	0.117		ug/L		119	50 - 150
Terbutylazine	0.0984	0.0941	J	ug/L		96	50 - 150
Thiobencarb	0.0984	0.114	J	ug/L		116	50 - 150
trans-Nonachlor	0.0246	ND		ug/L		82	50 - 150
Trifluralin	0.0984	0.0944	J	ug/L		96	50 - 150
1-Methylnaphthalene	0.0984	0.117		ug/L		119	50 - 150
2-Methylnaphthalene	0.0984	0.115		ug/L		117	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130
Perylene-d12	91		70 - 130
Triphenylphosphate	109		70 - 130

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.98	2.35		ug/L		118	70 - 130
2,4'-DDE	ND		1.98	2.03		ug/L		102	70 - 130
2,4'-DDT	ND		1.98	2.30		ug/L		116	70 - 130
2,4-Dinitrotoluene	ND		1.98	1.84		ug/L		93	70 - 130
2,6-Dinitrotoluene	ND		1.98	1.84		ug/L		93	70 - 130
4,4'-DDD	ND		1.98	2.31		ug/L		116	70 - 130
4,4'-DDE	ND		1.98	2.30		ug/L		116	70 - 130
4,4'-DDT	ND		1.98	2.15		ug/L		109	70 - 130
Acenaphthene	ND		1.98	1.89		ug/L		95	70 - 130
Acenaphthylene	ND		1.98	1.87		ug/L		94	70 - 130
Acetochlor	ND		1.98	2.11		ug/L		106	70 - 130
Alachlor	ND		1.98	2.20		ug/L		111	70 - 130
alpha-BHC	ND		1.98	2.17		ug/L		109	70 - 130
alpha-Chlordane	ND		1.98	2.06		ug/L		102	70 - 130

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Anthracene	ND	F1	1.98	1.34	F1	ug/L		68	70 - 130
Atrazine	ND		1.98	2.19		ug/L		110	70 - 130
Benz(a)anthracene	ND		1.98	2.13		ug/L		107	70 - 130
Benzo[a]pyrene	ND		1.98	1.88		ug/L		95	70 - 130
Benzo[b]fluoranthene	ND		1.98	2.11		ug/L		107	70 - 130
Benzo[g,h,i]perylene	ND		1.98	2.11		ug/L		106	70 - 130
Benzo[k]fluoranthene	ND		1.98	2.18		ug/L		110	70 - 130
beta-BHC	ND		1.98	2.16		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.98	1.97		ug/L		99	70 - 130
Bromacil	ND		1.98	2.51		ug/L		127	70 - 130
Butachlor	ND		1.98	2.35		ug/L		119	70 - 130
Butylbenzylphthalate	ND		1.98	2.41		ug/L		121	70 - 130
Chlorobenzilate	ND		1.98	2.32		ug/L		117	70 - 130
Chloroneb	ND		1.98	1.95		ug/L		99	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.98	2.22		ug/L		112	70 - 130
Chlorpyrifos	ND		1.98	2.29		ug/L		116	70 - 130
Chrysene	ND		1.98	2.06		ug/L		104	70 - 130
delta-BHC	ND		1.98	2.16		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	ND	^3+	1.98	2.30		ug/L		116	70 - 130
Dibenz(a,h)anthracene	ND		1.98	2.06		ug/L		104	70 - 130
Diclorvos (DDVP)	ND		1.98	2.04		ug/L		103	70 - 130
Dieldrin	ND		1.98	2.33		ug/L		115	70 - 130
Diethylphthalate	ND		1.98	1.96		ug/L		99	70 - 130
Dimethylphthalate	ND		1.98	1.98		ug/L		100	70 - 130
Di-n-butyl phthalate	ND		3.96	4.35		ug/L		110	70 - 130
Di-n-octyl phthalate	ND		1.98	1.90		ug/L		96	70 - 130
Endosulfan I (Alpha)	ND		1.98	2.01		ug/L		101	70 - 130
Endosulfan II (Beta)	ND		1.98	2.34		ug/L		118	70 - 130
Endosulfan sulfate	ND	F1	1.98	2.59	F1	ug/L		131	70 - 130
Endrin	ND		1.98	2.55		ug/L		128	70 - 130
Endrin aldehyde	ND	^3+	1.98	1.87		ug/L		94	70 - 130
EPTC	ND		1.98	2.22		ug/L		112	70 - 130
Fluoranthene	ND		1.98	2.06		ug/L		104	70 - 130
Fluorene	ND		1.98	1.96		ug/L		99	70 - 130
gamma-BHC (Lindane)	ND		1.98	2.15		ug/L		109	70 - 130
gamma-Chlordane	ND	^3+	1.98	1.97		ug/L		97	70 - 130
Heptachlor	ND		1.98	2.20		ug/L		111	70 - 130
Heptachlor epoxide (isomer B)	ND	^3+	1.98	2.09		ug/L		105	70 - 130
Hexachlorobenzene	ND		1.98	1.95		ug/L		98	70 - 130
Hexachlorocyclopentadiene	ND		1.98	2.00		ug/L		101	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.98	2.09		ug/L		105	70 - 130
Isophorone	ND		1.98	1.87		ug/L		95	70 - 130
Malathion	ND		1.98	2.32		ug/L		117	70 - 130
Methoxychlor	ND		1.98	2.49		ug/L		126	70 - 130
Metolachlor	ND		1.98	2.32		ug/L		117	70 - 130
Metribuzin	ND		1.98	2.30		ug/L		116	70 - 130
Molinate	ND		1.98	2.21		ug/L		112	70 - 130
Naphthalene	ND		1.98	1.85		ug/L		94	70 - 130
Parathion	ND		1.98	2.22		ug/L		112	70 - 130

Eurofins Drinking Water Testing Pomona



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: 380-34720-V-2-A DU**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Butylbenzylphthalate	ND		ND		ug/L		NC	20
Chlorobenzilate	ND		ND		ug/L		NC	20
Chloroneb	ND		ND		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	ND		ND		ug/L		NC	20
Chlorpyrifos	ND		ND		ug/L		NC	20
Chrysene	ND		ND		ug/L		NC	20
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND	^3+	ND		ug/L		NC	20
Dibenz(a,h)anthracene	ND		ND		ug/L		NC	20
Diclorvos (DDVP)	ND		ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	20
Diethylphthalate	ND		ND		ug/L		NC	20
Dimethylphthalate	ND		ND		ug/L		NC	20
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Endosulfan I (Alpha)	ND		ND		ug/L		NC	20
Endosulfan II (Beta)	ND		ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND		ND		ug/L		NC	20
Endrin aldehyde	ND	^3+	ND		ug/L		NC	20
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-BHC (Lindane)	ND		ND		ug/L		NC	20
gamma-Chlordane	ND	^3+	ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND	^3+	ND		ug/L		NC	20
Hexachlorobenzene	ND		ND		ug/L		NC	20
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND		ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	ND		ND		ug/L		NC	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: 380-34720-V-2-A DU**  
**Matrix: Water**  
**Analysis Batch: 30320**

**Client Sample ID: Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 30258**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
1-Methylnaphthalene	ND		ND		ug/L		NC	20
2-Methylnaphthalene	ND		ND		ug/L		NC	20

Surrogate	DU %Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	97		70 - 130
Triphenylphosphate	112		70 - 130

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

**Lab Sample ID: MBL 380-30432/4-A**  
**Matrix: Water**  
**Analysis Batch: 30502**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 30432**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.040	ug/L		01/23/23 14:25	01/23/23 18:36	1
1,2-D bromo-3-Chloropropane	ND		0.010	ug/L		01/23/23 14:25	01/23/23 18:36	1
1,2-D bromoethane	ND		0.010	ug/L		01/23/23 14:25	01/23/23 18:36	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	105		60 - 140	01/23/23 14:25	01/23/23 18:36	1

**Lab Sample ID: LCS 380-30432/3-A**  
**Matrix: Water**  
**Analysis Batch: 30502**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30432**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.200	0.209		ug/L		104	70 - 130
1,2-D bromo-3-Chloropropane	0.200	0.207		ug/L		103	70 - 130
1,2-D bromoethane	0.200	0.217		ug/L		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane (Surr)	110		60 - 140

**Lab Sample ID: MRL 380-30432/1-A**  
**Matrix: Water**  
**Analysis Batch: 30502**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30432**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0400	0.0406		ug/L		101	60 - 140

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dibromopropane (Surr)	113		60 - 140

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30432/2-A**  
**Matrix: Water**  
**Analysis Batch: 30502**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30432**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0497		ug/L		99	60 - 140
1,2-D bromo-3-Chloropropane	0.0100	0.0103		ug/L		103	60 - 140
1,2-D bromoethane	0.0100	0.00924	J	ug/L		92	60 - 140
<b>Surrogate</b>	<b>MRL %Recovery</b>	<b>MRL Qualifier</b>	<b>Limits</b>				
1,2-Dibromopropane (Surr)	112		60 - 140				

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30502**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**  
**Prep Batch: 30432**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	ND		1.26	1.41		ug/L		112	65 - 135
1,2-D bromo-3-Chloropropane	ND		0.253	0.282		ug/L		112	65 - 135
1,2-D bromoethane	ND		0.253	0.280		ug/L		111	65 - 135
<b>Surrogate</b>	<b>MS %Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
1,2-Dibromopropane (Surr)	109		60 - 140						

**Lab Sample ID: 380-34654-2 DU**  
**Matrix: Water**  
**Analysis Batch: 30502**

**Client Sample ID: HALAWA WELLS PUMP 1 TB**  
**Prep Type: Total/NA**  
**Prep Batch: 30432**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,2,3-Trichloropropane	ND		ND		ug/L		NC	20
1,2-D bromo-3-Chloropropane	ND		ND		ug/L		NC	20
1,2-D bromoethane	ND		ND		ug/L		NC	20
<b>Surrogate</b>	<b>DU %Recovery</b>	<b>DU Qualifier</b>	<b>Limits</b>					
1,2-Dibromopropane (Surr)	111		60 - 140					

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

**Lab Sample ID: MB 380-30329/7-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
Aldrin	ND		0.0020	ug/L		01/20/23 14:15	01/20/23 19:10	1
Chlordane (n.o.s.)	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
Dieldrin	ND		0.0020	ug/L		01/20/23 14:15	01/20/23 19:10	1
Endrin	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:10	1
gamma-BHC (Lindane)	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:10	1
Heptachlor	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:10	1
Heptachlor epoxide	ND		0.010	ug/L		01/20/23 14:15	01/20/23 19:10	1
Methoxychlor	ND		0.051	ug/L		01/20/23 14:15	01/20/23 19:10	1
PCB-1016	ND		0.071	ug/L		01/20/23 14:15	01/20/23 19:10	1

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MB 380-30329/7-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
PCB-1221	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
PCB-1232	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
PCB-1242	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
PCB-1248	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
PCB-1254	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
PCB-1260	ND		0.071	ug/L		01/20/23 14:15	01/20/23 19:10	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1
Toxaphene	ND		0.10	ug/L		01/20/23 14:15	01/20/23 19:10	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	101		70 - 130	01/20/23 14:15	01/20/23 19:10	1

**Lab Sample ID: MRL 380-30329/2-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aldrin	0.00200	ND		ug/L		94	50 - 150
Dieldrin	0.00200	0.00221		ug/L		110	50 - 150

Surrogate	MRL	MRL	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	94		70 - 130

**Lab Sample ID: MRL 380-30329/3-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Alachlor	0.100	0.112		ug/L		112	50 - 150
Aldrin	0.0100	0.00927		ug/L		93	50 - 150
Dieldrin	0.0100	0.0106		ug/L		106	50 - 150
Endrin	0.0100	0.0109		ug/L		109	50 - 150
gamma-BHC (Lindane)	0.0100	0.00940	J	ug/L		94	50 - 150
Heptachlor	0.0100	0.0108		ug/L		108	50 - 150
Heptachlor epoxide	0.0100	0.0116		ug/L		116	50 - 150
Methoxychlor	0.0500	0.0505		ug/L		101	50 - 150

Surrogate	MRL	MRL	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	100		70 - 130

**Lab Sample ID: MRL 380-30329/4-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Toxaphene	0.500	0.464		ug/L		93	50 - 150



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: MRL 380-30329/4-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	99		70 - 130

**Lab Sample ID: MRL 380-30329/5-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Toxaphene	0.100	0.112		ug/L		112	50 - 150

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	94		70 - 130

**Lab Sample ID: MRL 380-30329/6-A**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Chlordane (n.o.s.)	0.0997	0.0936	J	ug/L		94	50 - 150

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	93		70 - 130

**Lab Sample ID: 380-34454-P-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Alachlor	ND		1.02	1.11		ug/L		109	65 - 135
Aldrin	ND		0.102	0.108		ug/L		106	65 - 135
Dieldrin	ND		0.102	0.107		ug/L		105	65 - 135
Endrin	ND		0.102	0.107		ug/L		105	65 - 135
gamma-BHC (Lindane)	ND		0.102	0.0871		ug/L		86	65 - 135
Heptachlor	ND		0.102	0.110		ug/L		108	65 - 135
Heptachlor epoxide	ND		0.102	0.109		ug/L		107	65 - 135
Methoxychlor	ND		0.509	0.530		ug/L		104	65 - 135

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	99		70 - 130

**Lab Sample ID: 380-34454-Q-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Chlordane (n.o.s.)	ND		0.506	0.474		ug/L		94	65 - 135

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: 380-34454-Q-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	91		70 - 130

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MS MS</b>		<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec Limits</b>
				<b>Result</b>	<b>Qualifier</b>				
Alachlor	ND		0.200	0.204		ug/L		102	65 - 135
Aldrin	ND		0.0200	0.0260		ug/L		130	65 - 135
Dieldrin	0.058		0.0200	0.0715		ug/L		68	65 - 135
Endrin	ND		0.0200	0.0192		ug/L		96	65 - 135
gamma-BHC (Lindane)	ND		0.0200	0.0151		ug/L		76	65 - 135
Heptachlor	ND		0.0200	0.0205		ug/L		103	65 - 135
Heptachlor epoxide	0.018		0.0200	0.0370		ug/L		95	65 - 135
Methoxychlor	ND		0.100	0.0849		ug/L		85	65 - 135

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	99		70 - 130

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30452**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**  
**Prep Batch: 30329**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MS MS</b>		<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec Limits</b>
				<b>Result</b>	<b>Qualifier</b>				
Toxaphene	ND		2.51	2.14		ug/L		86	65 - 135

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Tetrachloro-m-xylene</i>	94		70 - 130

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 380-30152/4**  
**Matrix: Water**  
**Analysis Batch: 30152**

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

<b>Analyte</b>	<b>MB MB</b>		<b>RL</b>	<b>Unit</b>	<b>D</b>	<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
	<b>Result</b>	<b>Qualifier</b>						
Nitrate as N	ND		0.050	mg/L			01/18/23 13:33	1
Nitrate Nitrite as N	ND		0.050	mg/L			01/18/23 13:33	1
Nitrite as N	ND		0.050	mg/L			01/18/23 13:33	1

**Lab Sample ID: LCS 380-30152/7**  
**Matrix: Water**  
**Analysis Batch: 30152**

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

<b>Analyte</b>	<b>Spike Added</b>	<b>LCS LCS</b>		<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec Limits</b>
		<b>Result</b>	<b>Qualifier</b>				
Nitrate as N	2.50	2.46		mg/L		98	90 - 110
Nitrate Nitrite as N	3.50	3.41		mg/L		97	90 - 110
Nitrite as N	1.00	0.947		mg/L		95	90 - 110

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCSD 380-30152/8**  
**Matrix: Water**  
**Analysis Batch: 30152**

**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	2.55		mg/L		102	90 - 110	4	20
Nitrate Nitrite as N	3.50	3.53		mg/L		101	90 - 110	3	20
Nitrite as N	1.00	0.975		mg/L		98	90 - 110	3	20

**Lab Sample ID: MRL 380-30152/5**  
**Matrix: Water**  
**Analysis Batch: 30152**

**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	0.0131	J	mg/L		105	50 - 150
Nitrate Nitrite as N	0.0250	0.0247	J	mg/L		99	50 - 150
Nitrite as N	0.0125	0.0116	J	mg/L		93	50 - 150

**Lab Sample ID: MRL 380-30152/6**  
**Matrix: Water**  
**Analysis Batch: 30152**

**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	0.0467	J	mg/L		93	50 - 150
Nitrate Nitrite as N	0.100	0.0931		mg/L		93	50 - 150
Nitrite as N	0.0500	0.0464	J	mg/L		93	50 - 150

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30152**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	1.7		6.25	7.99		mg/L		101	80 - 120
Nitrate Nitrite as N	1.7		8.75	10.1		mg/L		96	80 - 120
Nitrite as N	ND		2.50	2.08		mg/L		83	80 - 120

**Lab Sample ID: 380-34654-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 30152**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**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	1.7		6.25	8.04		mg/L		101	80 - 120	1	20
Nitrate Nitrite as N	1.7		8.75	10.1		mg/L		96	80 - 120	1	20
Nitrite as N	ND		2.50	2.09		mg/L		83	80 - 120	1	20

**Lab Sample ID: MB 380-30153/4**  
**Matrix: Water**  
**Analysis Batch: 30153**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	mg/L			01/18/23 13:33	1
Sulfate	ND		0.25	mg/L			01/18/23 13:33	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30153/7**  
**Matrix: Water**  
**Analysis Batch: 30153**

**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	25.3		mg/L		101	90 - 110
Sulfate	50.0	50.9		mg/L		102	90 - 110

**Lab Sample ID: LCSD 380-30153/8**  
**Matrix: Water**  
**Analysis Batch: 30153**

**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	26.2		mg/L		105	90 - 110	4	20
Sulfate	50.0	52.8		mg/L		106	90 - 110	4	20

**Lab Sample ID: MRL 380-30153/5**  
**Matrix: Water**  
**Analysis Batch: 30153**

**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	0.128	J	mg/L		102	50 - 150
Sulfate	0.250	0.244	J	mg/L		98	50 - 150

**Lab Sample ID: MRL 380-30153/6**  
**Matrix: Water**  
**Analysis Batch: 30153**

**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	0.428	J	mg/L		86	50 - 150
Sulfate	1.00	0.957		mg/L		96	50 - 150

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30153**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	190		62.5	249		mg/L		88	80 - 120
Sulfate	43		125	172		mg/L		103	80 - 120

**Lab Sample ID: 380-34654-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 30153**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	190		62.5	250	E	mg/L		90	80 - 120	1	20
Sulfate	43		125	173		mg/L		104	80 - 120	1	20

**Lab Sample ID: MB 380-30464/4**  
**Matrix: Water**  
**Analysis Batch: 30464**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	ug/L			01/23/23 13:47	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30464/5**  
**Matrix: Water**  
**Analysis Batch: 30464**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	99.4		ug/L		99	90 - 110

**Lab Sample ID: LCSD 380-30464/6**  
**Matrix: Water**  
**Analysis Batch: 30464**

**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	98.8		ug/L		99	90 - 110	1	10

**Lab Sample ID: MRL 380-30464/3**  
**Matrix: Water**  
**Analysis Batch: 30464**

**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	5.59		ug/L		112	75 - 125

**Lab Sample ID: 380-34768-A-4 MS**  
**Matrix: Water**  
**Analysis Batch: 30464**

**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	ND		50.0	51.6		ug/L		96	80 - 120

**Lab Sample ID: 380-34768-A-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 30464**

**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	ND		50.0	53.7		ug/L		100	80 - 120	4	20

**Lab Sample ID: MB 380-30794/4**  
**Matrix: Water**  
**Analysis Batch: 30794**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	ug/L			01/25/23 17:05	1

**Lab Sample ID: LCS 380-30794/5**  
**Matrix: Water**  
**Analysis Batch: 30794**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	99.9		ug/L		100	90 - 110

**Lab Sample ID: LCSD 380-30794/6**  
**Matrix: Water**  
**Analysis Batch: 30794**

**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	100		ug/L		100	90 - 110	0	10

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# QC Sample Results

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

Job ID: 380-34654-1

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MRL 380-30794/3**  
**Matrix: Water**  
**Analysis Batch: 30794**

**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	6.26		ug/L		125	75 - 125

**Lab Sample ID: 380-35145-O-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30794**

**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	16		50.0	59.1		ug/L		86	80 - 120

**Lab Sample ID: 380-35145-O-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 30794**

**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	16		50.0	60.9		ug/L		90	80 - 120	3	20

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

**Lab Sample ID: MB 380-31320/88**  
**Matrix: Water**  
**Analysis Batch: 31320**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1.0	mg/L			02/01/23 15:05	1
Magnesium	ND		0.10	mg/L			02/01/23 15:05	1
Potassium	ND		1.0	mg/L			02/01/23 15:05	1
Sodium	ND		1.0	mg/L			02/01/23 15:05	1

**Lab Sample ID: LCS 380-31320/90**  
**Matrix: Water**  
**Analysis Batch: 31320**

**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	49.2		mg/L		98	85 - 115
Magnesium	20.0	19.4		mg/L		97	85 - 115
Potassium	20.0	19.6		mg/L		98	85 - 115
Sodium	50.0	48.5		mg/L		97	85 - 115

**Lab Sample ID: LCSD 380-31320/91**  
**Matrix: Water**  
**Analysis Batch: 31320**

**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	48.8		mg/L		98	85 - 115	1	20
Magnesium	20.0	19.3		mg/L		96	85 - 115	0	20
Potassium	20.0	19.4		mg/L		97	85 - 115	1	20
Sodium	50.0	48.2		mg/L		96	85 - 115	1	20

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LLCS 380-31320/89**  
**Matrix: Water**  
**Analysis Batch: 31320**

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	1.00	0.944	J	mg/L		94	50 - 150
Magnesium	0.100	0.0890	J	mg/L		89	50 - 150
Potassium	1.00	0.587	J	mg/L		59	50 - 150
Sodium	1.00	0.901	J	mg/L		90	50 - 150

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 31320**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	37		50.0	84.4		mg/L		96	70 - 130
Magnesium	33		20.0	52.0		mg/L		95	70 - 130
Potassium	3.9		20.0	25.5		mg/L		108	70 - 130
Sodium	70		50.0	114		mg/L		89	70 - 130

**Lab Sample ID: 380-34654-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 31320**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	37		50.0	84.7		mg/L		96	70 - 130	0	20
Magnesium	33		20.0	51.9		mg/L		95	70 - 130	0	20
Potassium	3.9		20.0	25.4		mg/L		108	70 - 130	0	20
Sodium	70		50.0	114		mg/L		88	70 - 130	1	20

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

**Lab Sample ID: MB 380-30688/1-A**  
**Matrix: Water**  
**Analysis Batch: 31025**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 30688**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Arsenic	ND		1.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Beryllium	ND		1.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Cadmium	ND		0.50	ug/L		01/25/23 16:44	01/26/23 16:43	1
Chromium	ND		1.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Copper	ND		2.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Lead	ND		0.50	ug/L		01/25/23 16:44	01/26/23 16:43	1
Nickel	ND		5.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Selenium	ND		5.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Silver	ND		0.50	ug/L		01/25/23 16:44	01/26/23 16:43	1
Thallium	ND		1.0	ug/L		01/25/23 16:44	01/26/23 16:43	1
Zinc	ND		20	ug/L		01/25/23 16:44	01/26/23 16:43	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: LCS 380-30688/3-A**  
**Matrix: Water**  
**Analysis Batch: 31025**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 30688**

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	48.9		ug/L		98	85 - 115
Beryllium	25.0	24.0		ug/L		96	85 - 115
Cadmium	25.0	24.2		ug/L		97	85 - 115
Chromium	50.0	48.3		ug/L		97	85 - 115
Copper	50.0	50.4		ug/L		101	85 - 115
Lead	50.0	49.2		ug/L		98	85 - 115
Nickel	50.0	48.2		ug/L		96	85 - 115
Selenium	50.0	49.5		ug/L		99	85 - 115
Silver	25.0	24.3		ug/L		97	85 - 115
Thallium	50.0	47.4		ug/L		95	85 - 115
Zinc	50.0	49.6		ug/L		99	85 - 115

**Lab Sample ID: LCSD 380-30688/4-A**  
**Matrix: Water**  
**Analysis Batch: 31025**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total Recoverable**  
**Prep Batch: 30688**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	49.1		ug/L		98	85 - 115	0	20
Arsenic	50.0	49.6		ug/L		99	85 - 115	1	20
Beryllium	25.0	24.2		ug/L		97	85 - 115	1	20
Cadmium	25.0	24.4		ug/L		98	85 - 115	1	20
Chromium	50.0	49.2		ug/L		98	85 - 115	2	20
Copper	50.0	51.2		ug/L		102	85 - 115	1	20
Lead	50.0	48.3		ug/L		97	85 - 115	2	20
Nickel	50.0	49.0		ug/L		98	85 - 115	2	20
Selenium	50.0	50.2		ug/L		100	85 - 115	2	20
Silver	25.0	23.7		ug/L		95	85 - 115	3	20
Thallium	50.0	46.2		ug/L		92	85 - 115	2	20
Zinc	50.0	50.6		ug/L		101	85 - 115	2	20

**Lab Sample ID: LLCS 380-30688/2-A**  
**Matrix: Water**  
**Analysis Batch: 31025**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 30688**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	0.936	J	ug/L		94	50 - 150
Arsenic	1.00	1.03		ug/L		103	50 - 150
Beryllium	1.00	0.905	J	ug/L		91	50 - 150
Cadmium	0.500	0.465	J	ug/L		93	50 - 150
Chromium	1.00	0.881	J	ug/L		88	50 - 150
Copper	2.00	1.90	J	ug/L		95	50 - 150
Lead	0.500	0.481	J	ug/L		96	50 - 150
Nickel	5.00	4.57	J	ug/L		91	50 - 150
Selenium	5.00	4.66	J	ug/L		93	50 - 150
Silver	0.500	0.397	J	ug/L		79	50 - 150
Thallium	1.00	0.938	J	ug/L		94	50 - 150
Zinc	20.0	19.1	J	ug/L		95	50 - 150



# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 31025**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total Recoverable**  
**Prep Batch: 30688**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Antimony	ND	F2 F1	50.0	50.9		ug/L		102		70 - 130
Arsenic	ND	F2 F1	50.0	50.9		ug/L		102		70 - 130
Beryllium	ND	F2 F1	25.0	24.7		ug/L		99		70 - 130
Cadmium	ND	F2 F1	25.0	24.0		ug/L		96		70 - 130
Chromium	2.1	F2 F1	50.0	50.4		ug/L		97		70 - 130
Copper	ND	F2 F1	50.0	46.9		ug/L		91		70 - 130
Lead	ND	F2 F1	50.0	47.1		ug/L		94		70 - 130
Nickel	ND	F2 F1	50.0	47.0		ug/L		92		70 - 130
Selenium	ND	F2 F1	50.0	51.8		ug/L		100		70 - 130
Silver	ND	F2 F1 ^2	25.0	22.3		ug/L		88		70 - 130
Thallium	ND	F2 F1	50.0	45.3		ug/L		91		70 - 130
Zinc	ND	F2 F1	50.0	63.8		ug/L		96		70 - 130

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 810-45189/1-A**  
**Matrix: Water**  
**Analysis Batch: 45205**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 45189**

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.10	ug/L		01/20/23 16:44	01/20/23 19:02	1

**Lab Sample ID: LCS 810-45189/3-A**  
**Matrix: Water**  
**Analysis Batch: 45205**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 45189**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Mercury	1.00	0.982		ug/L		98		85 - 115

**Lab Sample ID: 810-50806-C-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 45205**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 45189**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Mercury	ND		1.00	1.01		ug/L		101		70 - 130

**Lab Sample ID: 810-50806-C-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 45205**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 45189**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier		Result	Qualifier						Limit	Limit
Mercury	ND		1.00	1.06		ug/L		106		70 - 130	4	20

# QC Sample Results

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

Job ID: 380-34654-1

## Method: SM 2320B - Alkalinity

**Lab Sample ID: MB 380-30308/7**  
**Matrix: Water**  
**Analysis Batch: 30308**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
A kalinity	ND		2.0	mg/L			01/19/23 12:56	1
Bicarbonate Alkalinity as CaCO3	2.05	B	2.0	mg/L			01/19/23 12:56	1
Carbonate Alkalinity as CaCO3	ND		2.0	mg/L			01/19/23 12:56	1

**Lab Sample ID: LCS 380-30308/5**  
**Matrix: Water**  
**Analysis Batch: 30308**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	100	97.2		mg/L		97	90 - 110

**Lab Sample ID: LCSD 380-30308/22**  
**Matrix: Water**  
**Analysis Batch: 30308**

**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
A kalinity	100	97.3		mg/L		97	90 - 110	0	20

**Lab Sample ID: LLCS 380-30308/6**  
**Matrix: Water**  
**Analysis Batch: 30308**

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	20.0	20.7		mg/L		104	90 - 110

**Lab Sample ID: MRL 380-30308/8**  
**Matrix: Water**  
**Analysis Batch: 30308**

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	2.00	2.03		mg/L		102	50 - 150

**Lab Sample ID: 380-34654-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30308**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	64	F1	100	164		mg/L		99	80 - 120

**Lab Sample ID: 380-34654-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 30308**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	64	F1	100	163		mg/L		98	80 - 120	1	20

# QC Sample Results

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

Job ID: 380-34654-1

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

Lab Sample ID: 380-34654-1 DU  
Matrix: Water  
Analysis Batch: 30308

Client Sample ID: HALAWA WELLS PUMP 1  
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity	64	F1	64.8		mg/L		0.6	20
Bicarbonate Alkalinity as CaCO3	64	B ^2	64.8	B	mg/L		0.6	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

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

Lab Sample ID: MB 380-30309/7  
Matrix: Water  
Analysis Batch: 30309

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Specific Conductance	ND		2.0	umhos/cm			01/19/23 12:56	1

Lab Sample ID: LCS 380-30309/10  
Matrix: Water  
Analysis Batch: 30309

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Specific Conductance	1000	1000		umhos/cm		100	90 - 110

Lab Sample ID: LCSD 380-30309/22  
Matrix: Water  
Analysis Batch: 30309

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

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Specific Conductance	1000	995		umhos/cm		99	90 - 110	1	10

Lab Sample ID: MRL 380-30309/8  
Matrix: Water  
Analysis Batch: 30309

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Specific Conductance	2.00	2.60		umhos/cm		130	50 - 150

Lab Sample ID: 380-34654-1 DU  
Matrix: Water  
Analysis Batch: 30309

Client Sample ID: HALAWA WELLS PUMP 1  
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Specific Conductance	870	^2	859		umhos/cm		0.8	20

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

Lab Sample ID: MB 380-30368/1  
Matrix: Water  
Analysis Batch: 30368

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		10	mg/L			01/20/23 16:04	1

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: HLCS 380-30368/5**  
**Matrix: Water**  
**Analysis Batch: 30368**

**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	696		mg/L		99	80 - 114

**Lab Sample ID: LCS 380-30368/4**  
**Matrix: Water**  
**Analysis Batch: 30368**

**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	162		mg/L		93	80 - 114

**Lab Sample ID: MRL 380-30368/2**  
**Matrix: Water**  
**Analysis Batch: 30368**

**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 380-30368/3**  
**Matrix: Water**  
**Analysis Batch: 30368**

**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	7.00	J	mg/L		70	50 - 150

**Lab Sample ID: 380-34654-1 DU**  
**Matrix: Water**  
**Analysis Batch: 30368**

**Client Sample ID: HALAWA WELLS PUMP 1**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	500		500		mg/L		0.8	10

## Method: SM 4500 F C - Fluoride

**Lab Sample ID: MB 380-30237/6**  
**Matrix: Water**  
**Analysis Batch: 30237**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050	mg/L			01/19/23 13:42	1

**Lab Sample ID: LCS 380-30237/8**  
**Matrix: Water**  
**Analysis Batch: 30237**

**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	0.996		mg/L		100	90 - 110

# QC Sample Results

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

Job ID: 380-34654-1

## Method: SM 4500 F C - Fluoride (Continued)

**Lab Sample ID: LCSD 380-30237/9**  
**Matrix: Water**  
**Analysis Batch: 30237**

**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	0.999		mg/L		100	90 - 110	0	10

**Lab Sample ID: MRL 380-30237/7**  
**Matrix: Water**  
**Analysis Batch: 30237**

**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
Fluoride	0.0500	0.0484	J	mg/L		97	50 - 150		

**Lab Sample ID: 380-34489-AA-1 MS**  
**Matrix: Water**  
**Analysis Batch: 30237**

**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
Fluoride	0.14		1.00	1.15		mg/L		100	80 - 120		

**Lab Sample ID: 380-34489-AA-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 30237**

**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	0.14		1.00	1.15		mg/L		101	80 - 120	1	20

## Method: SM 4500 H+ B - pH

**Lab Sample ID: MB 380-30310/9**  
**Matrix: Water**  
**Analysis Batch: 30310**

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.0			SU			01/19/23 12:56	1

**Lab Sample ID: LCS 380-30310/10**  
**Matrix: Water**  
**Analysis Batch: 30310**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
pH	6.00	6.0		SU		100	98 - 102		

**Lab Sample ID: LCSD 380-30310/23**  
**Matrix: Water**  
**Analysis Batch: 30310**

**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

# QC Sample Results

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

Job ID: 380-34654-1

## Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 380-34654-1 DU  
Matrix: Water  
Analysis Batch: 30310

Client Sample ID: HALAWA WELLS PUMP 1  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.7		SU		0.1	2

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

Lab Sample ID: MB 380-30546/1  
Matrix: Water  
Analysis Batch: 30546

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.050	mg/L			01/24/23 12:17	1

Lab Sample ID: LCS 380-30546/4  
Matrix: Water  
Analysis Batch: 30546

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	0.240		mg/L		96	90 - 110

Lab Sample ID: LCSD 380-30546/16  
Matrix: Water  
Analysis Batch: 30546

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	0.241		mg/L		96	90 - 110	0	20

Lab Sample ID: MRL 380-30546/15  
Matrix: Water  
Analysis Batch: 30546

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	0.0460	J	mg/L		92	50 - 150

Lab Sample ID: MRL 380-30546/2  
Matrix: Water  
Analysis Batch: 30546

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	0.0460	J	mg/L		92	50 - 150

Lab Sample ID: 380-34727-J-1 MS  
Matrix: Water  
Analysis Batch: 30546

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	ND		0.250	0.235		mg/L		94	80 - 120

# QC Sample Results

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

Job ID: 380-34654-1

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

**Lab Sample ID: 380-34727-J-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 30546**

**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	ND		0.250	0.252		mg/L		101	80 - 120	7	20

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i

**Lab Sample ID: 103730-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Chlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Methylphenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Nitroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
2-Nitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
3-Nitroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
4-Chloroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
4-Nitroaniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
4-Nitrophenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Acenaphthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Aniline	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzidine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzoic Acid	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1

# QC Sample Results

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

Job ID: 380-34654-1

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

**Lab Sample ID: 103730-B1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biphenyl	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Chrysene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Dibenzofuran	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Fluoranthene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Fluorene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Hexachloroethane	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Naphthalene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Nitrobenzene	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Pentachlorophenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Perylene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Phenanthrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1
Phenol	ND		0.2	0.1	µg/L		01/20/23 00:00	02/13/23 18:32	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		01/20/23 00:00	02/13/23 18:32	1
Pyrene	ND		0.005	0.001	µg/L		01/20/23 00:00	02/13/23 18:32	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	93		30 - 130	01/20/23 00:00	02/13/23 18:32	1
(d10-Acenaphthene)	98		27 - 133	01/20/23 00:00	02/13/23 18:32	1
(d10-Phenanthrene)	97		43 - 129	01/20/23 00:00	02/13/23 18:32	1
(d12-Chrysene)	104		52 - 144	01/20/23 00:00	02/13/23 18:32	1
(d12-Perylene)	96		36 - 161	01/20/23 00:00	02/13/23 18:32	1
(d5-Phenol)	76		0 - 130	01/20/23 00:00	02/13/23 18:32	1
(d8-Naphthalene)	86		25 - 125	01/20/23 00:00	02/13/23 18:32	1

**Lab Sample ID: 103730-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.454		µg/L		91	31 - 128
1-Methylphenanthrene	0.5	0.454		µg/L		91	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.482		µg/L		96	55 - 122
2,4,5-Trichlorophenol	1	0.923		µg/L		92	30 - 130
2,4,6-Trichlorophenol	1	0.791		µg/L		79	30 - 130
2,4-Dichlorophenol	1	0.74		µg/L		74	51 - 117
2,4-Dinitrophenol	1	1.13		µg/L		113	0 - 152
2,6-Dichlorophenol	0.5	0.355		µg/L		71	30 - 130
2,6-Dimethylnaphthalene	0.5	0.459		µg/L		92	48 - 120

Eurofins Drinking Water Testing Pomona



# QC Sample Results

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

Job ID: 380-34654-1

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

**Lab Sample ID: 103730-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Di-tert-butyl-4-methylphenol	1	0.724		µg/L		72	50 - 150
2,6-Di-tert-butylphenol	1	0.821		µg/L		82	50 - 150
2-Chloronaphthalene	1	0.849		µg/L		85	53 - 130
2-Chlorophenol	1	0.661		µg/L		66	41 - 120
2-Methyl-4,6-dinitrophenol	1	1.08		µg/L		108	0 - 141
2-Methylnaphthalene	1.5	1.4		µg/L		93	47 - 130
2-Methylphenol	1	0.761		µg/L		76	40 - 117
2-Nitroaniline	1	0.771		µg/L		77	69 - 114
2-Nitrophenol	1	0.632		µg/L		63	40 - 117
3+4-Methylphenol	1	0.784		µg/L		78	0 - 130
3-Nitroaniline	1	0.794		µg/L		79	23 - 137
4-Bromophenylphenyl ether	1	0.824		µg/L		82	61 - 132
4-Chloro-3-methylphenol	1	0.839		µg/L		84	51 - 128
4-Chloroaniline	1	0.639		µg/L		64	50 - 150
4-Chlorophenylphenyl ether	1	0.862		µg/L		86	63 - 130
4-Nitroaniline	1	0.851		µg/L		85	10 - 159
4-Nitrophenol	1	0.824		µg/L		82	10 - 164
6-tert-butyl-2,4-dimethylphenol	1	0.721		µg/L		72	50 - 150
Acenaphthene	1.5	1.49		µg/L		99	53 - 131
Acenaphthylene	1.5	1.47		µg/L		98	43 - 140
Aniline	1	0.571		µg/L		57	50 - 150
Anthracene	1.5	1.49		µg/L		99	58 - 135
Benz[a]anthracene	1.5	1.6		µg/L		107	55 - 145
Benzidine	1	0.0145		µg/L		1	0 - 125
Benzo[a]pyrene	1.5	1.57		µg/L		105	51 - 143
Benzo[b]fluoranthene	1.5	1.65		µg/L		110	46 - 165
Benzo[e]pyrene	0.5	0.49		µg/L		98	42 - 152
Benzo[g,h,i]perylene	1.5	1.54		µg/L		103	63 - 133
Benzo[k]fluoranthene	1.5	1.59		µg/L		106	56 - 145
Benzoic Acid	1	0.63		µg/L		63	2 - 145
Benzyl Alcohol	1	0.783		µg/L		78	43 - 148
Biphenyl	0.5	0.478		µg/L		96	56 - 119
Bis(2-Chloroethoxy) methane	1	0.835		µg/L		83	66 - 122
Bis(2-Chloroethyl) ether	1	0.78		µg/L		78	43 - 127
Bis(2-Chloroisopropyl) ether	1	0.765		µg/L		76	49 - 128
Chrysene	1.5	1.65		µg/L		110	56 - 141
Dibenz[a,h]anthracene	1.5	1.76		µg/L		117	55 - 150
Dibenzo[a,l]pyrene	0.5	0.456		µg/L		91	50 - 150
Dibenzofuran	1	0.824		µg/L		82	50 - 150
Dibenzothiophene	0.5	0.475		µg/L		95	46 - 126
Disalicylidenepranediamine	50	51.7		µg/L		103	50 - 150
Fluoranthene	1.5	1.53		µg/L		102	60 - 146
Fluorene	1.5	1.55		µg/L		103	58 - 131
Hexachloroethane	1	0.621		µg/L		62	27 - 130
Indeno[1,2,3-cd]pyrene	1.5	1.77		µg/L		118	50 - 151
Naphthalene	1.5	1.3		µg/L		87	41 - 126
Nitrobenzene	1	0.708		µg/L		71	54 - 111
N-Nitrosodi-n-propylamine	1	0.771		µg/L		77	61 - 152
N-Nitrosodiphenylamine	1	0.864		µg/L		86	49 - 142

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

**Lab Sample ID: 103730-BS1**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Pentachlorophenol	1	1.1		µg/L		110	36 - 111
Perylene	0.5	0.463		µg/L		93	48 - 141
Phenanthrene	1.5	1.5		µg/L		100	67 - 127
Phenol	1	0.693		µg/L		69	29 - 114
p-tert-Butylphenol	1	0.865		µg/L		87	50 - 150
Pyrene	1.5	1.53		µg/L		102	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(2,4,6-Tribromophenol)	108		30 - 130
(d10-Acenaphthene)	93		27 - 133
(d10-Phenanthrene)	93		43 - 129
(d12-Chrysene)	102		52 - 144
(d12-Perylene)	95		36 - 161
(d5-Phenol)	82		0 - 130
(d8-Naphthalene)	80		25 - 125

**Lab Sample ID: 103730-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.49		µg/L		98	31 - 128	7	30
1-Methylphenanthrene	0.5	0.484		µg/L		97	66 - 127	6	30
2,3,5-Trimethylnaphthalene	0.5	0.499		µg/L		100	55 - 122	4	30
2,4,5-Trichlorophenol	1	0.827		µg/L		83	30 - 130	10	30
2,4,6-Trichlorophenol	1	0.809		µg/L		81	30 - 130	2	30
2,4-Dichlorophenol	1	0.832		µg/L		83	51 - 117	11	30
2,4-Dinitrophenol	1	0.955		µg/L		95	0 - 152	16	30
2,6-Dichlorophenol	0.5	0.404		µg/L		81	30 - 130	13	30
2,6-Dimethylnaphthalene	0.5	0.475		µg/L		95	48 - 120	3	30
2,6-Di-tert-butyl-4-methylphenol	1	0.774		µg/L		77	50 - 150	7	30
2,6-Di-tert-butylphenol	1	0.854		µg/L		85	50 - 150	4	30
2-Chloronaphthalene	1	0.889		µg/L		89	53 - 130	5	30
2-Chlorophenol	1	0.788		µg/L		79	41 - 120	18	30
2-Methyl-4,6-dinitrophenol	1	0.869		µg/L		87	0 - 141	22	30
2-Methylnaphthalene	1.5	1.52		µg/L		101	47 - 130	8	30
2-Methylphenol	1	0.853		µg/L		85	40 - 117	11	30
2-Nitroaniline	1	0.859		µg/L		86	69 - 114	11	30
2-Nitrophenol	1	0.759		µg/L		76	40 - 117	19	30
3+4-Methylphenol	1	0.841		µg/L		84	0 - 130	7	30
3-Nitroaniline	1	0.852		µg/L		85	23 - 137	7	30
4-Bromophenylphenyl ether	1	0.871		µg/L		87	61 - 132	6	30
4-Chloro-3-methylphenol	1	0.903		µg/L		90	51 - 128	7	30
4-Chloroaniline	1	0.666		µg/L		67	50 - 150	5	30
4-Chlorophenylphenyl ether	1	0.883		µg/L		88	63 - 130	2	30
4-Nitroaniline	1	0.919		µg/L		92	10 - 159	8	30
4-Nitrophenol	1	0.871		µg/L		87	10 - 164	6	30
6-tert-butyl-2,4-dimethylphenol	1	0.778		µg/L		78	50 - 150	8	30

Eurofins Drinking Water Testing Pomona

# QC Sample Results

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

Job ID: 380-34654-1

## Method: 625 Acid/Base/PAH + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

**Lab Sample ID: 103730-BS2**  
**Matrix: BlankMatrix**  
**Analysis Batch: O-40114**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: O-40114\_P**

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	1.5	1.57		µg/L		105	53 - 131	6	30
Acenaphthylene	1.5	1.52		µg/L		101	43 - 140	3	30
Aniline	1	0.635		µg/L		63	50 - 150	12	30
Anthracene	1.5	1.51		µg/L		101	58 - 135	2	30
Benz[a]anthracene	1.5	1.62		µg/L		108	55 - 145	1	30
Benzidine	1	0.00615		µg/L		1	0 - 125	0	30
Benzo[a]pyrene	1.5	1.57		µg/L		105	51 - 143	0	30
Benzo[b]fluoranthene	1.5	1.7		µg/L		113	46 - 165	3	30
Benzo[e]pyrene	0.5	0.455		µg/L		91	42 - 152	7	30
Benzo[g,h,i]perylene	1.5	1.55		µg/L		103	63 - 133	0	30
Benzo[k]fluoranthene	1.5	1.6		µg/L		107	56 - 145	1	30
Benzoic Acid	1	0.619		µg/L		62	2 - 145	2	30
Benzyl Alcohol	1	0.862		µg/L		86	43 - 148	10	30
Biphenyl	0.5	0.497		µg/L		99	56 - 119	3	30
Bis(2-Chloroethoxy) methane	1	0.951		µg/L		95	66 - 122	12	30
Bis(2-Chloroethyl) ether	1	0.943		µg/L		94	43 - 127	19	30
Bis(2-Chloroisopropyl) ether	1	0.899		µg/L		90	49 - 128	17	30
Chrysene	1.5	1.65		µg/L		110	56 - 141	0	30
Dibenz[a,h]anthracene	1.5	1.76		µg/L		117	55 - 150	0	30
Dibenz[a,l]pyrene	0.5	0.462		µg/L		92	50 - 150	1	30
Dibenzofuran	1	0.881		µg/L		88	50 - 150	7	30
Dibenzothiophene	0.5	0.5		µg/L		100	46 - 126	5	30
Disalicylidenepropanediamine	50	59.8		µg/L		120	50 - 150	15	30
Fluoranthene	1.5	1.58		µg/L		105	60 - 146	3	30
Fluorene	1.5	1.58		µg/L		105	58 - 131	2	30
Hexachloroethane	1	0.704		µg/L		70	27 - 130	12	30
Indeno[1,2,3-cd]pyrene	1.5	1.85		µg/L		123	50 - 151	4	30
Naphthalene	1.5	1.49		µg/L		99	41 - 126	13	30
Nitrobenzene	1	0.819		µg/L		82	54 - 111	14	30
N-Nitrosodi-n-propylamine	1	0.84		µg/L		84	61 - 152	9	30
N-Nitrosodiphenylamine	1	0.887		µg/L		89	49 - 142	3	30
Pentachlorophenol	1	0.949		µg/L		95	36 - 111	15	30
Perylene	0.5	0.487		µg/L		97	48 - 141	4	30
Phenanthrene	1.5	1.54		µg/L		103	67 - 127	3	30
Phenol	1	0.808		µg/L		81	29 - 114	16	30
p-tert-Butylphenol	1	0.937		µg/L		94	50 - 150	9	30
Pyrene	1.5	1.58		µg/L		105	54 - 156	3	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(2,4,6-Tribromophenol)	107		30 - 130
(d10-Acenaphthene)	96		27 - 133
(d10-Phenanthrene)	96		43 - 129
(d12-Chrysene)	105		52 - 144
(d12-Perylene)	92		36 - 161
(d5-Phenol)	95		0 - 130
(d8-Naphthalene)	93		25 - 125

# QC Sample Results

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

Job ID: 380-34654-1

## Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23MEA003WB  
Matrix: WATER  
Analysis Batch: 23MEA003W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			01/20/23 12:21	1

Lab Sample ID: 23MEA003WL  
Matrix: WATER  
Analysis Batch: 23MEA003W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
ETHANOL	10000	9730		ug/L		97	60 - 130

## Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23VG39A08B  
Matrix: WATER  
Analysis Batch: 23VG39A08

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			01/19/23 13:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					01/19/23 13:12	1

Lab Sample ID: 23VG39A08L  
Matrix: WATER  
Analysis Batch: 23VG39A08

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.437		mg/L		87	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	102		70 - 130

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Lab Sample ID: 23DSA029WB  
Matrix: WATER  
Analysis Batch: 23DSA029W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			01/24/23 18:24	1
JP5	ND	U	0.05		mg/L			01/24/23 18:24	1
JP8	ND	U	0.05		mg/L			01/24/23 18:24	1
MOTOR OIL	ND	U	0.05		mg/L			01/24/23 18:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					01/24/23 18:24	1
HEXACOSANE					01/24/23 18:24	1

# QC Sample Results

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

Job ID: 380-34654-1

## Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

**Lab Sample ID: 23DSA029WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSA029W**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.5	2.43		mg/L		97	50 - 130
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
BROMOBENZENE	102		60 - 130				
HEXACOSANE	115		60 - 130				

**Lab Sample ID: 23J5A029WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSA029W**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.5	2.51		mg/L		100	30 - 160
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
BROMOBENZENE	103		60 - 130				
HEXACOSANE	115		60 - 130				

**Lab Sample ID: 23J8A029WL**  
**Matrix: WATER**  
**Analysis Batch: 23DSA029W**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP8	2.5	2.1		mg/L		84	30 - 160
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
BROMOBENZENE	105		60 - 130				
HEXACOSANE	120		60 - 130				

# QC Association Summary

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

Job ID: 380-34654-1

## GC/MS VOA

### Analysis Batch: 30110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	524.2	
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	524.2	
MB 380-30110/11	Method Blank	Total/NA	Water	524.2	
LCS 380-30110/8	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-30110/9	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-30110/10	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 30532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-30532/8	Method Blank	Total/NA	Water	524.2	
LCS 380-30532/4	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-30532/5	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-30532/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-30532/7	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 30534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	524.2	
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	524.2	
MB 380-30534/5	Method Blank	Total/NA	Water	524.2	
LCS 380-30534/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-30534/4	Lab Control Sample Dup	Total/NA	Water	524.2	

### Analysis Batch: 30675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	524.2	
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	524.2	
MB 380-30675/15	Method Blank	Total/NA	Water	524.2	
LCS 380-30675/11	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-30675/12	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-30675/10	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-30675/14	Lab Control Sample	Total/NA	Water	524.2	

### Analysis Batch: 30956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	524.2	
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	524.2	
MB 380-30956/8	Method Blank	Total/NA	Water	524.2	
LCS 380-30956/4	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-30956/5	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-30956/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-30956/7	Lab Control Sample	Total/NA	Water	524.2	

## GC/MS Semi VOA

### Prep Batch: 30258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	525.2	
MB 380-30258/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-30258/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-30258/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	

# QC Association Summary

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

Job ID: 380-34654-1

## GC/MS Semi VOA (Continued)

### Prep Batch: 30258 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-30258/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	525.2	
380-34720-V-2-A DU	Duplicate	Total/NA	Water	525.2	

### Analysis Batch: 30320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	525.2	30258
MB 380-30258/1-A	Method Blank	Total/NA	Water	525.2	30258
LCS 380-30258/3-A	Lab Control Sample	Total/NA	Water	525.2	30258
LCSD 380-30258/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	30258
MRL 380-30258/2-A	Lab Control Sample	Total/NA	Water	525.2	30258
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	525.2	30258
380-34720-V-2-A DU	Duplicate	Total/NA	Water	525.2	30258

## GC Semi VOA

### Prep Batch: 30329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	505	
MB 380-30329/7-A	Method Blank	Total/NA	Water	505	
MRL 380-30329/2-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-30329/3-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-30329/4-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-30329/5-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-30329/6-A	Lab Control Sample	Total/NA	Water	505	
380-34454-P-1-A MS	Matrix Spike	Total/NA	Water	505	
380-34454-Q-1-A MS	Matrix Spike	Total/NA	Water	505	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	505	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	505	

### Prep Batch: 30432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	504.1	
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	504.1	
MBL 380-30432/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-30432/3-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-30432/1-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-30432/2-A	Lab Control Sample	Total/NA	Water	504.1	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	504.1	
380-34654-2 DU	HALAWA WELLS PUMP 1 TB	Total/NA	Water	504.1	

### Analysis Batch: 30452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	505	30329
MB 380-30329/7-A	Method Blank	Total/NA	Water	505	30329
MRL 380-30329/2-A	Lab Control Sample	Total/NA	Water	505	30329
MRL 380-30329/3-A	Lab Control Sample	Total/NA	Water	505	30329
MRL 380-30329/4-A	Lab Control Sample	Total/NA	Water	505	30329
MRL 380-30329/5-A	Lab Control Sample	Total/NA	Water	505	30329
MRL 380-30329/6-A	Lab Control Sample	Total/NA	Water	505	30329
380-34454-P-1-A MS	Matrix Spike	Total/NA	Water	505	30329

# QC Association Summary

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

Job ID: 380-34654-1

## GC Semi VOA (Continued)

### Analysis Batch: 30452 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34454-Q-1-A MS	Matrix Spike	Total/NA	Water	505	30329
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	505	30329
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	505	30329

### Analysis Batch: 30502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	504.1	30432
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	504.1	30432
MBL 380-30432/4-A	Method Blank	Total/NA	Water	504.1	30432
LCS 380-30432/3-A	Lab Control Sample	Total/NA	Water	504.1	30432
MRL 380-30432/1-A	Lab Control Sample	Total/NA	Water	504.1	30432
MRL 380-30432/2-A	Lab Control Sample	Total/NA	Water	504.1	30432
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	504.1	30432
380-34654-2 DU	HALAWA WELLS PUMP 1 TB	Total/NA	Water	504.1	30432

## HPLC/IC

### Analysis Batch: 30152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	
MB 380-30152/4	Method Blank	Total/NA	Water	300.0	
LCS 380-30152/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-30152/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-30152/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-30152/6	Lab Control Sample	Total/NA	Water	300.0	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	
380-34654-1 MSD	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	

### Analysis Batch: 30153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	
MB 380-30153/4	Method Blank	Total/NA	Water	300.0	
LCS 380-30153/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-30153/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-30153/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-30153/6	Lab Control Sample	Total/NA	Water	300.0	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	
380-34654-1 MSD	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	

### Analysis Batch: 30464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-30464/4	Method Blank	Total/NA	Water	300.0	
LCS 380-30464/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-30464/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-30464/3	Lab Control Sample	Total/NA	Water	300.0	
380-34768-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
380-34768-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 30794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	300.0	



# QC Association Summary

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

Job ID: 380-34654-1

## HPLC/IC (Continued)

### Analysis Batch: 30794 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-30794/4	Method Blank	Total/NA	Water	300.0	
LCS 380-30794/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-30794/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-30794/3	Lab Control Sample	Total/NA	Water	300.0	
380-35145-O-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-35145-O-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

## Metals

### Prep Batch: 30688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total Recoverable	Water	200.8	
MB 380-30688/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-30688/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-30688/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-30688/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total Recoverable	Water	200.8	

### Analysis Batch: 31025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total Recoverable	Water	200.8	30688
MB 380-30688/1-A	Method Blank	Total Recoverable	Water	200.8	30688
LCS 380-30688/3-A	Lab Control Sample	Total Recoverable	Water	200.8	30688
LCSD 380-30688/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	30688
LLCS 380-30688/2-A	Lab Control Sample	Total Recoverable	Water	200.8	30688
380-34654-1 MS	HALAWA WELLS PUMP 1	Total Recoverable	Water	200.8	30688

### Analysis Batch: 31320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	200.7 Rev 4.4	
MB 380-31320/88	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-31320/90	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-31320/91	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-31320/89	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	200.7 Rev 4.4	
380-34654-1 MSD	HALAWA WELLS PUMP 1	Total/NA	Water	200.7 Rev 4.4	

### Prep Batch: 45189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	245.1	
MB 810-45189/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-45189/3-A	Lab Control Sample	Total/NA	Water	245.1	
810-50806-C-1-B MS	Matrix Spike	Total/NA	Water	245.1	
810-50806-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

### Analysis Batch: 45205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	245.1	45189
MB 810-45189/1-A	Method Blank	Total/NA	Water	245.1	45189
LCS 810-45189/3-A	Lab Control Sample	Total/NA	Water	245.1	45189
810-50806-C-1-B MS	Matrix Spike	Total/NA	Water	245.1	45189

# QC Association Summary

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

Job ID: 380-34654-1

## Metals (Continued)

### Analysis Batch: 45205 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-50806-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	45189

## General Chemistry

### Analysis Batch: 30237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	SM 4500 F C	
MB 380-30237/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-30237/8	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-30237/9	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-30237/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-34489-AA-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-34489-AA-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

### Analysis Batch: 30308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2320B	
MB 380-30308/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-30308/5	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-30308/22	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-30308/6	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-30308/8	Lab Control Sample	Total/NA	Water	SM 2320B	
380-34654-1 MS	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2320B	
380-34654-1 MSD	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2320B	
380-34654-1 DU	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2320B	

### Analysis Batch: 30309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2510B	
MB 380-30309/7	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-30309/10	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-30309/22	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-30309/8	Lab Control Sample	Total/NA	Water	SM 2510B	
380-34654-1 DU	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2510B	

### Analysis Batch: 30310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	SM 4500 H+ B	
MB 380-30310/9	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-30310/10	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-30310/23	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-34654-1 DU	HALAWA WELLS PUMP 1	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 30368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2540C	
MB 380-30368/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-30368/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-30368/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-30368/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-30368/3	Lab Control Sample	Total/NA	Water	SM 2540C	

# QC Association Summary

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

Job ID: 380-34654-1

## General Chemistry (Continued)

### Analysis Batch: 30368 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1 DU	HALAWA WELLS PUMP 1	Total/NA	Water	SM 2540C	

### Analysis Batch: 30546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	SM 4500 S2 D	
MB 380-30546/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-30546/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-30546/16	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-30546/15	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-30546/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-34727-J-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
380-34727-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

## Subcontract

### Analysis Batch: O-40114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	625 Acid/Base/PAH + TICs	O-40114_P
103730-B1	Method Blank	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-40114_P
103730-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-40114_P
103730-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-40114_P

### Analysis Batch: 23DSA029W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	8015 LL DRO/MRO/JP5/J P8	
23DSA029WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSA029WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5A029WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8A029WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

### Analysis Batch: 23MEA003W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	8015 Ethanol	
23MEA003WB	Method Blank	Total/NA	WATER	8015 Ethanol	
23MEA003WL	Lab Control Sample	Total/NA	WATER	8015 Ethanol	

# QC Association Summary

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

Job ID: 380-34654-1

## Subcontract

### Analysis Batch: 23VG39A08

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-34654-2	HALAWA WELLS PUMP 1 TB	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39A08B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39A08L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

### Prep Batch: O-40114\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-34654-1	HALAWA WELLS PUMP 1	Total/NA	Water	EPA_625	
103730-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
103730-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
103730-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	



# Lab Chronicle

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1**

**Lab Sample ID: 380-34654-1**

**Date Collected: 01/17/23 10:37**

**Matrix: Water**

**Date Received: 01/18/23 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	30534	AAE8	EA MON	01/25/23 08:45
Total/NA	Analysis	524.2		1	30675	AAE8	EA MON	01/26/23 00:38
Total/NA	Analysis	524.2		1	30956	AAE8	EA MON	01/30/23 16:07
Total/NA	Analysis	524.2		1	30110	P3EE	EA MON	01/18/23 20:53
Total/NA	Prep	525.2			30258	G9MN	EA MON	01/20/23 05:58
Total/NA	Analysis	525.2		1	30320	UPAC	EA MON	01/20/23 17:05
Total/NA	Prep	504.1			30432	K9GY	EA MON	01/23/23 14:25 - 01/23/23 15:15 <sup>1</sup>
Total/NA	Analysis	504.1		1	30502	K9GY	EA MON	01/23/23 19:13
Total/NA	Prep	505			30329	DR5R	EA MON	01/20/23 14:15 - 01/20/23 15:50 <sup>1</sup>
Total/NA	Analysis	505		1	30452	ULRL	EA MON	01/20/23 19:33
Total/NA	Analysis	300.0		5	30152	VB9B	EA MON	01/18/23 18:04
Total/NA	Analysis	300.0		5	30153	VB9B	EA MON	01/18/23 18:04
Total/NA	Analysis	300.0		5	30794	UNJR	EA MON	01/25/23 21:00
Total/NA	Analysis	200.7 Rev 4.4		1	31320	J9ZD	EA MON	02/01/23 15:09
Total Recoverable	Prep	200.8			30688	NQM8	EA MON	01/25/23 16:44
Total Recoverable	Analysis	200.8		1	31025	ULAL	EA MON	01/26/23 16:58
Total/NA	Prep	245.1			45189	AC	EA SB	01/20/23 16:44
Total/NA	Analysis	245.1		1	45205	AC	EA SB	01/20/23 19:59
Total/NA	Analysis	SM 2320B		1	30308	D5MQ	EA MON	01/19/23 15:29
Total/NA	Analysis	SM 2510B		1	30309	D5MQ	EA MON	01/19/23 15:29
Total/NA	Analysis	SM 2540C		1	30368	XLG4	EA MON	01/20/23 16:04
Total/NA	Analysis	SM 4500 F C		1	30237	D5MQ	EA MON	01/19/23 14:32
Total/NA	Analysis	SM 4500 H+ B		1	30310	D5MQ	EA MON	01/19/23 15:29
Total/NA	Analysis	SM 4500 S2 D		1	30546	MH2L	EA MON	01/24/23 12:17
Total/NA	Prep	EPA_625		1	O-40114_P			01/20/23 00:00
Total/NA	Analysis	625 Acid/Base/PAH + TICs		1	O-40114_YC			02/13/23 23:46
Total/NA	Analysis	8015 Ethanol		1	23MEA003W	ASitu		01/20/23 14:42
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A08	SCerva		01/20/23 03:05
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSA029W	SDees		01/24/23 22:22

**Client Sample ID: HALAWA WELLS PUMP 1 TB**

**Lab Sample ID: 380-34654-2**

**Date Collected: 01/17/23 10:37**

**Matrix: Water**

**Date Received: 01/18/23 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	30534	AAE8	EA MON	01/25/23 09:06
Total/NA	Analysis	524.2		1	30675	AAE8	EA MON	01/26/23 01:20
Total/NA	Analysis	524.2		1	30956	AAE8	EA MON	01/30/23 15:16
Total/NA	Analysis	524.2		1	30110	P3EE	EA MON	01/18/23 21:16

# Lab Chronicle

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

Job ID: 380-34654-1

**Client Sample ID: HALAWA WELLS PUMP 1 TB**

**Lab Sample ID: 380-34654-2**

**Date Collected: 01/17/23 10:37**

**Matrix: Water**

**Date Received: 01/18/23 10:00**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	504.1			30432	K9GY	EA MON	01/23/23 14:25 - 01/23/23 15:15 <sup>1</sup>
Total/NA	Analysis	504.1		1	30502	K9GY	EA MON	01/23/23 20:26
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39A08	SCerva		01/20/23 03:41

<sup>1</sup> Completion dates and times are reported or not reported per method requirements or individual lab discretion.

**Laboratory References:**

- = Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806
- EA MON = Eurofins Drinking Water Testing Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100
- EA SB = Eurofins Eaton South Bend, 110 S Hill Street, South Bend, IN 46617, TEL (574)233-4777



# Accreditation/Certification Summary

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

Job ID: 380-34654-1

## Laboratory: Eurofins Drinking Water Testing Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	02-28-23

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
300.0		Water	Nitrate Nitrite as N
505	505	Water	Polychlorinated biphenyls, Total
524.2		Water	1,3-Dichloropropene, Total
524.2		Water	2-Butanone (MEK)
524.2		Water	4-Methyl-2-pentanone (MIBK)
524.2		Water	Acetone
524.2		Water	Bromoethane
524.2		Water	m,p-Xylenes
524.2		Water	o-Xylene
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4'-DDT
525.2	525.2	Water	Acenaphthene
525.2	525.2	Water	Acenaphthylene
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	Anthracene
525.2	525.2	Water	Benz(a)anthracene
525.2	525.2	Water	Benzo[b]fluoranthene
525.2	525.2	Water	Benzo[g,h,i]perylene
525.2	525.2	Water	Benzo[k]fluoranthene
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Bromacil
525.2	525.2	Water	Butylbenzylphthalate
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	Chrysene
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Dibenz(a,h)anthracene
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Diethylphthalate
525.2	525.2	Water	Dimethylphthalate
525.2	525.2	Water	Di-n-butyl phthalate
525.2	525.2	Water	Di-n-octyl phthalate
525.2	525.2	Water	Endosulfan I (Alpha)

# Accreditation/Certification Summary

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

Job ID: 380-34654-1

## Laboratory: Eurofins Drinking Water Testing Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	Fluoranthene
525.2	525.2	Water	Fluorene
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
SM 4500 S2 D		Water	Sulfide

## Laboratory: Eurofins Eaton South Bend

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

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Alabama	State	40700	06-30-23
Alaska	State	IN00035	06-30-23
Arizona	State	AZ0432	07-26-23
Arkansas (DW)	State	EPA IN00035	06-30-23
California	State	2920	06-30-23
Colorado	State	IN00035	02-28-23
Connecticut	State	PH-0132	03-31-22 *
Delaware (DW)	State	IN00035	06-30-23
Florida	NELAP	E87775	06-30-23
Georgia (DW)	State	929	06-30-23
Hawaii	State	IN035	06-30-23
Idaho (DW)	State	IN00035	12-31-23
IL Dept. of Public Health (Micro)	State	17767	12-31-22 *
Illinois	NELAP	200001	09-30-23
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	11-01-23
Kansas	NELAP	E-10233	10-31-23

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



# Accreditation/Certification Summary

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

Job ID: 380-34654-1

## Laboratory: Eurofins Eaton 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
Kentucky (DW)	State	KY90056	12-31-22 *
Louisiana (DW)	State	LA014	12-31-23
Maine	State	IN00035	05-01-23
Maryland	State	209	03-31-23
Massachusetts	State	M-IN035	06-30-23
MI - RadChem Recognition	State	9926	06-30-23
Michigan	State	9926	03-31-23
Minnesota	NELAP	1989807	12-31-23
Mississippi	State	IN00035	06-30-22 *
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-02-24
Nebraska	State	NE-OS-05-04	06-30-23
Nevada	State	IN000352021-2	07-31-23
New Hampshire	NELAP	2124	11-05-23
New Jersey	NELAP	IN598	06-30-23
New Mexico	State	IN00035	06-30-23
New York	NELAP	11398	04-01-23
North Carolina (DW)	State	18700	07-31-23
North Dakota	State	R-035	06-30-23
Ohio	State	87775	06-30-23
Oklahoma	NELAP	D9508	08-31-23
Oregon	NELAP	4156	09-16-23
Pennsylvania	NELAP	68-00466	04-30-23
Puerto Rico	State	IN00035	04-01-23
Rhode Island	State	LAO00343	12-30-23
South Carolina	State	95005001	06-30-23
South Dakota (DW)	State	IN00035	12-31-22 *
Tennessee	State	TN02973	06-30-23
Texas	NELAP	T104704187-22-16	12-31-23
Texas	TCEQ Water Supply	TX207	06-30-23
USEPA Reg X SDWA	US Federal Programs	IN00035	08-20-22 *
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-23
Vermont	State	VT-8775	11-15-23
Virginia	NELAP	460275	03-14-23
Washington	State	C837	01-01-23 *
West Virginia (DW)	State	9927 C	12-31-23
Wisconsin	State	999766900	08-31-23
Wisconsin (Micro)	State	10121	12-31-22 *
Wyoming	State	8TMS-L	06-30-23

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

# Method Summary

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

Job ID: 380-34654-1

Method	Method Description	Protocol	Laboratory
524.2	Volatile Organic Compounds (GC/MS SIM)	EPA-DW	EA MON
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	EA MON
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA MON
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW2	EA MON
505	Organochlorine Pesticides/PCBs (GC)	EPA	EA MON
300.0	Anions, Ion Chromatography	EPA	EA MON
200.7 Rev 4.4	Metals (ICP)	EPA	EA MON
200.8	Metals (ICP/MS)	EPA	EA MON
245.1	Mercury (CVAA)	EPA	EA SB
SM 2320B	Alkalinity	SM	EA MON
SM 2510B	Conductivity, Specific Conductance	SM	EA MON
SM 2540C	Solids, Total Dissolved (TDS)	SM	EA MON
SM 4500 F C	Fluoride	SM	EA MON
SM 4500 H+ B	pH	SM	EA MON
SM 4500 S2 D	Sulfide, Total	SM	EA MON
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
200.8	Preparation, Total Recoverable Metals	EPA	EA MON
245.1	Preparation, Mercury	EPA	EA SB
504.1	Microextraction	EPA-DW	EA MON
505	Extraction, Organochlorine Pesticides/PCBs	EPA	EA MON
525.2	Extraction of Semivolatile Compounds	EPA	EA MON
None	Autocomplete Prep - Metals - No Digestion required	None	EA MON

## Protocol References:

EPA = US Environmental Protection Agency

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

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

None = None

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

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

## Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

EA MON = Eurofins Drinking Water Testing Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

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

# Sample Summary

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

Job ID: 380-34654-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-34654-1	HALAWA WELLS PUMP 1	Water	01/17/23 10:37	01/18/23 10:00
380-34654-2	HALAWA WELLS PUMP 1 TB	Water	01/17/23 10:37	01/18/23 10:00

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3051 Fujita Street  
Torrance, CA 90505  
Tel: (310)-618-8889

Date: 02-07-2023  
EMAX Batch No.: 23A195

Attn: Jackie Contreras

Eurofins Eaton Analytical  
750 Royal Oaks Dr., Suite 100  
Monrovia, CA 91016-3629

Subject: Laboratory Report  
Project: 380-34654

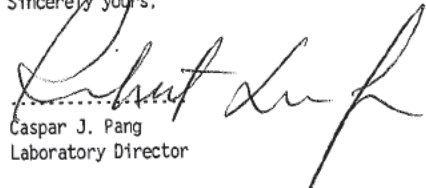
Enclosed is the Laboratory report for samples received on 01/19/23.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-34654-1	A195-01	01/17/23	WATER	TPH GASOLINE TPH ETHANOL
380-34654-2	A195-02	01/17/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

  
Caspar J. Pang  
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22  
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing  
California ELAP Accredited Certificate Number 2672





## REPORTING CONVENTIONS

### DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

### ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

### DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-34654

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 23A195





CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-34654

SDG : 23A195

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of two(2) water samples were received on 01/19/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39A08B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VG39A08L/VG39A08C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. Gasoline was within MS QC limits in A175-01M/A175-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.



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# SAMPLE RESULTS

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/17/23 10:37
Project	: 380-34654	Date Received:	01/19/23
Batch No.	: 23A195	Date Extracted:	01/20/23 03:05
Sample ID	: 380-34654-1	Date Analyzed:	01/20/23 03:05
Lab Samp ID:	A195-01	Dilution Factor:	1
Lab File ID:	EA19028A	Matrix:	WATER
Ext Btch ID:	23VG39A08	% Moisture:	NA
Calib. Ref.:	EA19023A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0317	0.0400	79	60-140

Notes:

Parameter H-C Range  
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml  
Prepared by : SCerva Analyzed by : SCerva

METHOD 5030B/8015B  
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/17/23 10:37
Project : 380-34654	Date Received: 01/19/23
Batch No. : 23A195	Date Extracted: 01/20/23 03:41
Sample ID : 380-34654-2	Date Analyzed: 01/20/23 03:41
Lab Samp ID: A195-02	Dilution Factor: 1
Lab File ID: EA19029A	Matrix: WATER
Ext Btch ID: 23VG39A08	% Moisture: NA
Calib. Ref.: EA19023A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0306	0.0400	77	60-140

Notes:

Parameter      H-C Range  
Gasoline        C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml	Final Volume : 5ml
Prepared by : SCerva	Analyzed by : SCerva

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# QC SUMMARIES



EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-34654  
BATCH NO. : 23A195  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VG39A08B	VG39A08L	VG39A08C
LAB FILE ID	: EA19005A	EA19006A	EA19007A
DATE PREPARED	: 01/19/23 13:12	01/19/23 13:48	01/19/23 14:24
DATE ANALYZED	: 01/19/23 13:12	01/19/23 13:48	01/19/23 14:24
PREP BATCH	: 23VG39A08	23VG39A08	23VG39A08
CALIBRATION REF:	EA19003A	EA19003A	EA19003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.437	87	0.500	0.445	89	2	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0406	102	0.0400	0.0416	104	70-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate



EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-35053  
BATCH NO. : 23A175  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-35053-1	380-35053-1MS	380-35053-1MSD
LAB SAMPLE ID	: A175-01	A175-01M	A175-01S
LAB FILE ID	: EA19020A	EA19021A	EA19022A
DATE PREPARED	: 01/19/23 22:17	01/19/23 22:53	01/19/23 23:29
DATE ANALYZED	: 01/19/23 22:17	01/19/23 22:53	01/19/23 23:29
PREP BATCH	: 23VG39A08	23VG39A08	23VG39A08
CALIBRATION REF:	EA19012A	EA19012A	EA19012A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.453	91	0.500	0.458	92	1	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0412	103	0.0400	0.0415	104	60-140

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-34654

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23A195



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-34654

SDG : 23A195

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/19/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSA029WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for Diesel was within LCS QC limits in DSA029WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 23A175-01M/23A175-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-34654

SDG : 23A195

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/19/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSA029WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP5 was within LCS QC limits in J5A029WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP5 was within MS QC limits in 23A175-01M/23A175-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-34654

SDG : 23A195

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/19/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSA029WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP8 was within LCS QC limits in J8A029WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP8 was within MS QC limits in 23A175-01M/23A175-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG NO. : 23A195  
Instrument ID : D5

Client : EUROFINs EATON ANALYTICAL  
Project : 380-34654

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSA029WB	1	NA	01/24/2318:24	01/23/2314:30	LA24010A	LA24004A	23DSA029W	Method Blank
LCS1W	DSA029WL	1	NA	01/24/2318:42	01/23/2314:30	LA24011A	LA24004A	23DSA029W	Lab Control Sample (LCS)
380-34654-1	A195-01	1	NA	01/24/2322:22	01/23/2314:30	LA24023A	LA24004A	23DSA029W	Field Sample

FN - Filename  
% Moist - Percent Moisture



LAB CHRONICLE  
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL      SDG NO. : 23A195  
 Project : 380-34654                              Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSA029MB	1	NA	01/24/2318:24	01/23/2314:30	LA24010A	LA24005A	23DSA029W	Method Blank
LCS1W	J5A029WL	1	NA	01/24/2319:00	01/23/2314:30	LA24012A	LA24005A	23DSA029W	Lab Control Sample (LCS)
380-34654-1	A195-01	1	NA	01/24/2322:22	01/23/2314:30	LA24023A	LA24005A	23DSA029W	Field Sample

FN - Filename  
 % Moist - Percent Moisture







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# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/17/23 10:37
Project : 380-34654	Date Received: 01/19/23
Batch No. : 23A195	Date Extracted: 01/23/23 14:30
Sample ID : 380-34654-1	Date Analyzed: 01/24/23 22:22
Lab Samp ID: 23A195-01	Dilution Factor: 1
Lab File ID: LA24023A	Matrix: WATER
Ext Btch ID: 23DSA029W	% Moisture: NA
Calib. Ref.: LA24004A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.024	0.012
Motor Oil	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.452	0.480	94	60-130
Hexacosane	0.143	0.120	119	60-130

Notes:

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1040ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/17/23 10:37
Project	: 380-34654	Date Received:	01/19/23
Batch No.	: 23A195	Date Extracted:	01/23/23 14:30
Sample ID	: 380-34654-1	Date Analyzed:	01/24/23 22:22
Lab Samp ID:	23A195-01	Dilution Factor:	1
Lab File ID:	LA24023A	Matrix:	WATER
Ext Btch ID:	23DSA029W	% Moisture:	NA
Calib. Ref.:	LA24005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.452	0.480	94	60-130
Hexacosane	0.143	0.120	119	60-130

Notes:

RL : Reporting Limit  
 Parameter H-C Range  
 JP5 C8-C18  
 Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1040ml Final Volume : 5ml  
 Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/17/23 10:37
Project	: 380-34654	Date Received:	01/19/23
Batch No.	: 23A195	Date Extracted:	01/23/23 14:30
Sample ID	: 380-34654-1	Date Analyzed:	01/24/23 22:22
Lab Samp ID:	23A195-01	Dilution Factor:	1
Lab File ID:	LA24023A	Matrix:	WATER
Ext Btch ID:	23DSA029W	% Moisture:	NA
Calib. Ref.:	LA24006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.452	0.480	94	60-130
Hexacosane	0.143	0.120	119	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1040ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

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# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/23/23 14:30
Project	: 380-34654	Date Received:	01/23/23
Batch No.	: 23A195	Date Extracted:	01/23/23 14:30
Sample ID	: MBLK1W	Date Analyzed:	01/24/23 18:24
Lab Samp ID:	DSA029WB	Dilution Factor:	1
Lab File ID:	LA24010A	Matrix:	WATER
Ext Btch ID:	23DSA029W	% Moisture:	NA
Calib. Ref.:	LA24004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.415	0.500	83	60-130
Hexacosane	0.129	0.125	103	60-130

Notes:

Parameter H-C Range  
Diesel C10-C24  
Motor Oil C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml  
Prepared by : P0reto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-34654  
BATCH NO. : 23A195  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSA029WB DSA029WL  
LAB FILE ID : LA24010A LA24011A  
DATE PREPARED : 01/23/23 14:30 01/23/23 14:30  
DATE ANALYZED : 01/24/23 18:24 01/24/23 18:42  
PREP BATCH : 23DSA029W 23DSA029W  
CALIBRATION REF: LA24004A LA24004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.43	97	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.510	102	60-130
Hexacosane	0.125	0.143	114	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-35053  
BATCH NO. : 23A175  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-35053-1	380-35053-1MS	380-35053-1MSD
LAB SAMPLE ID	: 23A175-01	23A175-01M	23A175-01S
LAB FILE ID	: LA24014A	LA24015A	LA24016A
DATE PREPARED	: 01/23/23 14:30	01/23/23 14:30	01/23/23 14:30
DATE ANALYZED	: 01/24/23 19:37	01/24/23 19:55	01/24/23 20:14
PREP BATCH	: 23DSA029W	23DSA029W	23DSA029W
CALIBRATION REF:	LA24004A	LA24004A	LA24004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.75	1.93	70	2.75	2.07	75	7	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.550	0.415	75	0.550	0.446	81	60-130
Hexacosane	0.138	0.147	107	0.138	0.147	107	60-130

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/23/23 14:30
Project	: 380-34654	Date Received:	01/23/23
Batch No.	: 23A195	Date Extracted:	01/23/23 14:30
Sample ID	: MBLK1W	Date Analyzed:	01/24/23 18:24
Lab Samp ID:	DSA029WB	Dilution Factor:	1
Lab File ID:	LA24010A	Matrix:	WATER
Ext Btch ID:	23DSA029W	% Moisture:	NA
Calib. Ref.:	LA24005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.415	0.500	83	60-130
Hexacosane	0.129	0.125	103	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-34654  
BATCH NO. : 23A195  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSA029WB J5A029WL  
LAB FILE ID : LA24010A LA24012A  
DATE PREPARED : 01/23/23 14:30 01/23/23 14:30  
DATE ANALYZED : 01/24/23 18:24 01/24/23 19:00  
PREP BATCH : 23DSA029W 23DSA029W  
CALIBRATION REF: LA24005A LA24005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP5	ND	2.50	2.51	100	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.515	103	60-130
Hexacosane	0.125	0.144	115	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-35053  
BATCH NO. : 23A175  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-35053-1	380-35053-1MS	380-35053-1MSD
LAB SAMPLE ID	: 23A175-01	23A175-01M	23A175-01S
LAB FILE ID	: LA24014A	LA24017A	LA24018A
DATE PREPARED	: 01/23/23 14:30	01/23/23 14:30	01/23/23 14:30
DATE ANALYZED	: 01/24/23 19:37	01/24/23 20:32	01/24/23 20:50
PREP BATCH	: 23DSA029W	23DSA029W	23DSA029W
CALIBRATION REF:	LA24005A	LA24005A	LA24005A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.55	1.64	64	2.65	1.97	74	18	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.510	0.410	80	0.530	0.462	87	60-130
Hexacosane	0.127	0.130	102	0.132	0.142	107	60-130

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/23/23 14:30
Project	: 380-34654	Date Received:	01/23/23
Batch No.	: 23A195	Date Extracted:	01/23/23 14:30
Sample ID	: MBLK1W	Date Analyzed:	01/24/23 18:24
Lab Samp ID:	DSA029WB	Dilution Factor:	1
Lab File ID:	LA24010A	Matrix:	WATER
Ext Btch ID:	23DSA029W	% Moisture:	NA
Calib. Ref.:	LA24006A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.415	0.500	83	60-130
Hexacosane	0.129	0.125	103	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-34654  
BATCH NO. : 23A195  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSA029WB J8A029WL  
LAB FILE ID : LA24010A LA24013A  
DATE PREPARED : 01/23/23 14:30 01/23/23 14:30  
DATE ANALYZED : 01/24/23 18:24 01/24/23 19:18  
PREP BATCH : 23DSA029W 23DSA029W  
CALIBRATION REF: LA24006A LA24006A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP8	ND	2.50	2.10	84	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.523	105	60-130
Hexacosane	0.125	0.150	120	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 380-35053  
BATCH NO. : 23A175  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-35053-1	380-35053-1MS	380-35053-1MSD
LAB SAMPLE ID	: 23A175-01	23A175-01M	23A175-01S
LAB FILE ID	: LA24014A	LA24019A	LA24020A
DATE PREPARED	: 01/23/23 14:30	01/23/23 14:30	01/23/23 14:30
DATE ANALYZED	: 01/24/23 19:37	01/24/23 21:09	01/24/23 21:27
PREP BATCH	: 23DSA029W	23DSA029W	23DSA029W
CALIBRATION REF:	LA24006A	LA24006A	LA24006A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.65	1.98	75	2.58	2.17	84	9	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.530	0.474	89	0.515	0.508	99	60-130
Hexacosane	0.132	0.139	105	0.129	0.154	120	60-130

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-34654

METHOD SW8015C  
ALCOHOLS BY GC

SDG#: 23A195



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-34654

SDG : 23A195

METHOD SW8015C  
ALCOHOLS BY GC

One(1) water sample was received on 01/19/23 to be analyzed for Alcohols by GC in accordance with Method SW8015C and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. MEA003WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. MEA003WL/MEA003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. Ethanol was within MS QC limits in A194-01M/A194-01S. Refer to Matrix QC summary form for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.



LAB CHRONICLE  
ALCOHOLS BY GC

SDG NO. : 23A195  
Instrument ID : GCT050

Client : EUROFINS EATON ANALYTICAL  
Project : 380-34654

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	WATER	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
380-34654-1	MEAO03MB	1	NA	01/20/2312:21		NA	TA20004A	TA20002A	MEAO03W	Method Blank
	MEAO03WL	1	NA	01/20/2312:35		NA	TA20005A	TA20002A	MEAO03W	Lab Control Sample (LCS)
	MEAO03WC	1	NA	01/20/2312:49		NA	TA20006A	TA20002A	MEAO03W	LCS Duplicate
	A195-01	1	NA	01/20/2314:42		NA	TA20010A	TA20002A	MEAO03W	Field Sample

FN - Filename  
% Moist - Percent Moisture



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# SAMPLE RESULTS

METHOD SW8015C  
ALCOHOLS BY GC

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/17/23
Project	: 380-34654	Date Received:	01/19/23
Batch No.	: 23A195	Date Extracted:	NA
Sample ID:	380-34654-1	Date Analyzed:	01/20/23 14:42
Lab Samp ID:	A195-01	Dilution Factor:	1
Lab File ID:	TA20010A	Matrix	: WATER
Ext Btch ID:	MEA003W	% Moisture	: NA
Calib. Ref.:	TA20002A	Instrument ID	: GCT050

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
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ETHANOL	ND	2000	500

RL : Reporting Limit



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# QC SUMMARIES

METHOD SW8015C  
ALCOHOLS BY GC

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Client	: EUROFINS EATON ANALYTICAL	Date Collected:	NA
Project	: 380-34654	Date Received:	NA
Batch No.	: 23A195	Date Extracted:	NA
Sample ID:	MBLK1W	Date Analyzed:	01/20/23 12:21
Lab Samp ID:	MEA003WB	Dilution Factor:	1
Lab File ID:	TA20004A	Matrix	: WATER
Ext Btch ID:	MEA003W	% Moisture	: NA
Calib. Ref.:	TA20002A	Instrument ID	: GCT050

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PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
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ETHANOL	ND	2000	500

RL : Reporting Limit



EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 380-34654  
BATCH NO.: 23A195  
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: MEA003WB MEA003WL MEA003WC  
LAB FILE ID: TA20004A TA20005A TA20006A  
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA  
DATE ANALYZED: 01/20/2312:21 01/20/2312:35 01/20/2312:49 DATE RECEIVED: NA  
PREP. BATCH: MEA003W MEA003W MEA003W  
CALIB. REF: TA20002A TA20002A TA20002A

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethanol	ND	10000	9730	97	10000	9310	93	4	60-130	30

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 380-34727  
BATCH NO.: 23A194  
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: 380-34727-1  
LAB SAMP ID: A194-01 A194-01M A194-01S  
LAB FILE ID: TA20007A TA20008A TA20009A  
DATE EXTRACTED: NA NA NA DATE COLLECTED: 01/17/23  
DATE ANALYZED: 01/20/2313:35 01/20/2313:55 01/20/2314:09 DATE RECEIVED: 01/19/23  
PREP. BATCH: MEA003W MEA003W MEA003W  
CALIB. REF: TA20002A TA20002A TA20002A

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethanol	ND	10000	9420	94	10000	9260	93	2	60-130	30

February 27, 2023

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 Suite 100  
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-34654-1  
 Physis Project ID: 1407003-364

Dear Rachelle,


Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 1/19/2023. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1
Base/Neutral Extractable Compounds by EPA 625.1
Acid Extractable Compounds w/ PAHs by EPA 625.1
6-tert-Butyl-2,4-dimethylphenol by EPA 625.1
2,6-Di-tert-butylphenol by EPA 625.1
2,6-Di-tert-butyl-4-methylphenol by EPA 625.1
p-tert-Butylphenol by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

  
 Misty Mercier  
 714 602-5320  
 Extension 202  
 mistymercier@physislabs.com



## PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-364

RED-HILL Project # 38001111 Job # 380-34654-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
103731	HALAWA WELLS PUMP 1	380-34654-1	1/17/2023	10:37	Samplewater	Not Specified

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## ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

## QUALITY ASSURANCE SUMMARY

**LABORATORY BATCH:** Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

**PROCEDURAL BLANK:** Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

**ACCURACY:** Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

**PRECISION:** Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS<sub>1</sub>/MS<sub>2</sub>, BS<sub>1</sub>/BS<sub>2</sub>, LCS<sub>1</sub>/LCS<sub>2</sub>, LCM<sub>1</sub>/LCM<sub>2</sub>, CRM<sub>1</sub>/CRM<sub>2</sub>, surrogate spikes and/or replicate project sample analysis (R<sub>1</sub>/R<sub>2</sub>) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

**BLANK SPIKES:** BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

**MATRIX SPIKES:** MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

**CERTIFIED REFERENCE MATERIALS:** CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

**LABORATORY CONTROL MATERIAL:** LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

**LABORATORY CONTROL SPIKES:** LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

**SURROGATES:** A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

**HOLDING TIME:** Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

**SAMPLE STORAGE/RETENTION:** In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

**TOTAL/DISSOLVED FRACTION:** In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

## PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

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## CASE NARRATIVE

### QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

#### **ND**

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

# ANALYTICALS

# REPORT

TERRA AURA  
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## Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 103731-R1</b>	<b>HALAWA WELLS PUMP 1380-3465 Matrix: Samplewater</b>						<b>Sampled:</b>	<b>17-Jan-23 10:37</b>	<b>Received:</b>	<b>19-Jan-23</b>	
(2,4,6-Tribromophenol)	EPA 625.1	% Recovery	90	1			Total	O-40114	20-Jan-23	13-Feb-23	
(d5-Phenol)	EPA 625.1	% Recovery	21	1			Total	O-40114	20-Jan-23	13-Feb-23	
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Benzoic Acid	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-40114	20-Jan-23	13-Feb-23	
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	



## Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 103731-R1</b>	<b>HALAWA WELLS PUMP 1380-3465 Matrix: Samplewater</b>						<b>Sampled:</b>	<b>17-Jan-23 10:37</b>	<b>Received:</b>	<b>19-Jan-23</b>	
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
D benzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-40114	20-Jan-23	13-Feb-23	

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 103731-R1 HALAWA WELLS PUMP 1380-3465 Matrix: Samplewater</b>							<b>Sampled: 17-Jan-23 10:37</b>		<b>Received: 19-Jan-23</b>		
(d10-Acenaphthene)	EPA 625.1	% Recovery	101	1			Total		O-40114	20-Jan-23	13-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	97	1			Total		O-40114	20-Jan-23	13-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	100	1			Total		O-40114	20-Jan-23	13-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	97	1			Total		O-40114	20-Jan-23	13-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	91	1			Total		O-40114	20-Jan-23	13-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40114	20-Jan-23	13-Feb-23



# QUALITY CONTROL REPORT

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## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE
							LEVEL	RESULT	% LIMITS	% LIMITS	
<b>Sample ID: 103730-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-40114		Prepared: 20-Jan-23		Analyzed: 13-Feb-23					
(2,4,6-Tribromophenol)	Total	93	1			% Recovery	100	93	30 - 130%	PASS	
(d5-Phenol)	Total	76	1			% Recovery	100	76	0 - 130%	PASS	
2,4,5-Trichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,4,6-Trichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,4-Dichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,4-Dinitrophenol	Total	ND	1	0.1	0.2	µg/L					
2,6-Dichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,6-Di-tert-butyl-4-methylphenol	Total	ND	1	0.05	0.1	µg/L					
2,6-Di-tert-butylphenol	Total	ND	1	0.05	0.1	µg/L					
2-Chlorophenol	Total	ND	1	0.05	0.1	µg/L					
2-Methyl-4,6-dinitrophenol	Total	ND	1	0.1	0.2	µg/L					
2-Methylphenol	Total	ND	1	0.1	0.2	µg/L					
2-Nitrophenol	Total	ND	1	0.1	0.2	µg/L					
3+4-Methylphenol	Total	ND	1	0.1	0.2	µg/L					
4-Chloro-3-methylphenol	Total	ND	1	0.1	0.2	µg/L					
4-Nitrophenol	Total	ND	1	0.1	0.2	µg/L					
6-tert-butyl-2,4-dimethylphenol	Total	ND	1	0.05	0.1	µg/L					
Benzoic Acid	Total	ND	1	0.1	0.2	µg/L					
Benzyl Alcohol	Total	ND	1	0.1	0.2	µg/L					
Pentachlorophenol	Total	ND	1	0.05	0.1	µg/L					
Phenol	Total	ND	1	0.1	0.2	µg/L					
p-tert-Butylphenol	Total	ND	1	0.05	0.1	µg/L					

## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 103730-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-40114			Prepared: 20-Jan-23		Analyzed: 13-Feb-23					
(2,4,6-Tribromophenol)	Total	108	1			% Recovery	100	0	108	30 - 130%	PASS	
(d5-Phenol)	Total	82	1			% Recovery	100	0	82	0 - 130%	PASS	
2,4,5-Trichlorophenol	Total	0.923	1	0.05	0.1	µg/L	1	0	92	30 - 130%	PASS	
2,4,6-Trichlorophenol	Total	0.791	1	0.05	0.1	µg/L	1	0	79	56 - 118%	PASS	
2,4-Dichlorophenol	Total	0.74	1	0.05	0.1	µg/L	1	0	74	51 - 117%	PASS	
2,4-Dinitrophenol	Total	1.13	1	0.1	0.2	µg/L	1	0	113	0 - 152%	PASS	
2,6-Dichlorophenol	Total	0.355	1	0.05	0.1	µg/L	0.5	0	71	30 - 130%	PASS	
2,6-Di-tert-butyl-4-methylphenol	Total	0.724	1	0.05	0.1	µg/L	1	0	72	50 - 150%	PASS	
2,6-Di-tert-butylphenol	Total	0.821	1	0.05	0.1	µg/L	1	0	82	50 - 150%	PASS	
2-Chlorophenol	Total	0.661	1	0.05	0.1	µg/L	1	0	66	41 - 110%	PASS	
2-Methyl-4,6-dinitrophenol	Total	1.08	1	0.1	0.2	µg/L	1	0	108	0 - 141%	PASS	
2-Methylphenol	Total	0.761	1	0.1	0.2	µg/L	1	0	76	40 - 117%	PASS	
2-Nitrophenol	Total	0.632	1	0.1	0.2	µg/L	1	0	63	40 - 117%	PASS	
3+4-Methylphenol	Total	0.784	1	0.1	0.2	µg/L	1	0	78	0 - 130%	PASS	
4-Chloro-3-methylphenol	Total	0.839	1	0.1	0.2	µg/L	1	0	84	51 - 128%	PASS	
4-Nitrophenol	Total	0.824	1	0.1	0.2	µg/L	1	0	82	10 - 164%	PASS	
6-tert-butyl-2,4-dimethylphenol	Total	0.721	1	0.05	0.1	µg/L	1	0	72	50 - 150%	PASS	
Benzoic Acid	Total	0.63	1	0.1	0.2	µg/L	1	0	63	2 - 145%	PASS	
Benzyl Alcohol	Total	0.783	1	0.1	0.2	µg/L	1	0	78	43 - 148%	PASS	
Pentachlorophenol	Total	1.1	1	0.05	0.1	µg/L	1	0	110	36 - 111%	PASS	
Phenol	Total	0.693	1	0.1	0.2	µg/L	1	0	69	29 - 114%	PASS	
p-tert-Butylphenol	Total	0.865	1	0.05	0.1	µg/L	1	0	87	50 - 150%	PASS	

## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
<b>Sample ID: 103730-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>			
		Method: EPA 625.1			Batch ID: O-40114			Prepared: 20-Jan-23			Analyzed: 13-Feb-23			
(2,4,6-Tribromophenol)	Total	107	1			% Recovery	100	0	107	30 - 130%	PASS	1	30	PASS
(d5-Phenol)	Total	95	1			% Recovery	100	0	95	0 - 130%	PASS	15	30	PASS
2,4,5-Trichlorophenol	Total	0.827	1	0.05	0.1	µg/L	1	0	83	30 - 130%	PASS	10	30	PASS
2,4,6-Trichlorophenol	Total	0.809	1	0.05	0.1	µg/L	1	0	81	56 - 118%	PASS	2	30	PASS
2,4-Dichlorophenol	Total	0.832	1	0.05	0.1	µg/L	1	0	83	51 - 117%	PASS	11	30	PASS
2,4-Dinitrophenol	Total	0.955	1	0.1	0.2	µg/L	1	0	95	0 - 152%	PASS	16	30	PASS
2,6-Dichlorophenol	Total	0.404	1	0.05	0.1	µg/L	0.5	0	81	30 - 130%	PASS	13	30	PASS
2,6-Di-tert-butyl-4-methylphenol	Total	0.774	1	0.05	0.1	µg/L	1	0	77	50 - 150%	PASS	7	30	PASS
2,6-Di-tert-butylphenol	Total	0.854	1	0.05	0.1	µg/L	1	0	85	50 - 150%	PASS	4	30	PASS
2-Chlorophenol	Total	0.788	1	0.05	0.1	µg/L	1	0	79	41 - 110%	PASS	18	30	PASS
2-Methyl-4,6-dinitrophenol	Total	0.869	1	0.1	0.2	µg/L	1	0	87	0 - 141%	PASS	22	30	PASS
2-Methylphenol	Total	0.853	1	0.1	0.2	µg/L	1	0	85	40 - 117%	PASS	11	30	PASS
2-Nitrophenol	Total	0.759	1	0.1	0.2	µg/L	1	0	76	40 - 117%	PASS	19	30	PASS
3+4-Methylphenol	Total	0.841	1	0.1	0.2	µg/L	1	0	84	0 - 130%	PASS	7	30	PASS
4-Chloro-3-methylphenol	Total	0.903	1	0.1	0.2	µg/L	1	0	90	51 - 128%	PASS	7	30	PASS
4-Nitrophenol	Total	0.871	1	0.1	0.2	µg/L	1	0	87	10 - 164%	PASS	6	30	PASS
6-tert-butyl-2,4-dimethylphenol	Total	0.778	1	0.05	0.1	µg/L	1	0	78	50 - 150%	PASS	8	30	PASS
Benzoic Acid	Total	0.619	1	0.1	0.2	µg/L	1	0	62	2 - 145%	PASS	2	30	PASS
Benzyl Alcohol	Total	0.862	1	0.1	0.2	µg/L	1	0	86	43 - 148%	PASS	10	30	PASS
Pentachlorophenol	Total	0.949	1	0.05	0.1	µg/L	1	0	95	36 - 111%	PASS	15	30	PASS
Phenol	Total	0.808	1	0.1	0.2	µg/L	1	0	81	29 - 114%	PASS	16	30	PASS
p-tert-Butylphenol	Total	0.937	1	0.05	0.1	µg/L	1	0	94	50 - 150%	PASS	9	30	PASS

**Base/Neutral Extractable Compounds**

**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE
							LEVEL	RESULT	%	LIMITS	%
<b>Sample ID: 103730-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
		Method: EPA 625.1			Batch ID: O-40114		Prepared: 20-Jan-23		Analyzed: 13-Feb-23		
2-Chloronaphthalene	Total	ND	1	0.05	0.1	µg/L					
2-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
3-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Bromophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Chloroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Chlorophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
Aniline	Total	ND	1	0.05	0.1	µg/L					
Benzidine	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethoxy) methane	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethyl) ether	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroisopropyl) ether	Total	ND	1	0.05	0.1	µg/L					
Dibenzofuran	Total	ND	1	0.05	0.1	µg/L					
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L					
Hexachloroethane	Total	ND	1	0.05	0.1	µg/L					
Nitrobenzene	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodi-n-propylamine	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodiphenylamine	Total	ND	1	0.05	0.1	µg/L					



## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODEc
									%	LIMITS	%	LIMITS	
<b>Sample ID: 103730-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>			
Method: EPA 625.1		Batch ID: O-40114			Prepared: 20-Jan-23		Analyzed: 13-Feb-23						
2-Chloronaphthalene	Total	0.849	1	0.05	0.1	µg/L	1	0	85	53 - 130%	PASS		
2-Nitroaniline	Total	0.771	1	0.05	0.1	µg/L	1	0	77	69 - 114%	PASS		
3-Nitroaniline	Total	0.794	1	0.05	0.1	µg/L	1	0	79	23 - 137%	PASS		
4-Bromophenylphenyl ether	Total	0.824	1	0.05	0.1	µg/L	1	0	82	61 - 132%	PASS		
4-Chloroaniline	Total	0.639	1	0.05	0.1	µg/L	1	0	64	50 - 150%	PASS		
4-Chlorophenylphenyl ether	Total	0.862	1	0.05	0.1	µg/L	1	0	86	63 - 130%	PASS		
4-Nitroaniline	Total	0.851	1	0.05	0.1	µg/L	1	0	85	10 - 159%	PASS		
Aniline	Total	0.571	1	0.05	0.1	µg/L	1	0	57	50 - 150%	PASS		
Benzidine	Total	0.0145	1	0.05	0.1	µg/L	1	0	1	0 - 125%	PASS		
Bis(2-Chloroethoxy) methane	Total	0.835	1	0.05	0.1	µg/L	1	0	83	66 - 122%	PASS		
Bis(2-Chloroethyl) ether	Total	0.78	1	0.05	0.1	µg/L	1	0	78	43 - 127%	PASS		
Bis(2-Chloroisopropyl) ether	Total	0.765	1	0.05	0.1	µg/L	1	0	76	49 - 128%	PASS		
Dibenzofuran	Total	0.824	1	0.05	0.1	µg/L	1	0	82	50 - 150%	PASS		
Disalicylidene-propanediamin	Total	51.7	1	0.05	0.1	µg/L	50	0	103	50 - 150%	PASS		
Hexachloroethane	Total	0.621	1	0.05	0.1	µg/L	1	0	62	27 - 130%	PASS		
Nitrobenzene	Total	0.708	1	0.05	0.1	µg/L	1	0	71	54 - 111%	PASS		
N-Nitrosodi-n-propylamine	Total	0.771	1	0.05	0.1	µg/L	1	0	77	61 - 152%	PASS		
N-Nitrosodiphenylamine	Total	0.864	1	0.05	0.1	µg/L	1	0	86	49 - 142%	PASS		

## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODEc	
									%	LIMITS	%	LIMITS		
<b>Sample ID: 103730-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>				
		Method: EPA 625.1			Batch ID: O-40114			Prepared: 20-Jan-23		Analyzed: 13-Feb-23				
2-Chloronaphthalene	Total	0.889	1	0.05	0.1	µg/L	1	0	89	53 - 130%	PASS	5	30	PASS
2-Nitroaniline	Total	0.859	1	0.05	0.1	µg/L	1	0	86	69 - 114%	PASS	11	30	PASS
3-Nitroaniline	Total	0.852	1	0.05	0.1	µg/L	1	0	85	23 - 137%	PASS	7	30	PASS
4-Bromophenylphenyl ether	Total	0.871	1	0.05	0.1	µg/L	1	0	87	61 - 132%	PASS	6	30	PASS
4-Chloroaniline	Total	0.666	1	0.05	0.1	µg/L	1	0	67	50 - 150%	PASS	5	30	PASS
4-Chlorophenylphenyl ether	Total	0.883	1	0.05	0.1	µg/L	1	0	88	63 - 130%	PASS	2	30	PASS
4-Nitroaniline	Total	0.919	1	0.05	0.1	µg/L	1	0	92	10 - 159%	PASS	8	30	PASS
Aniline	Total	0.635	1	0.05	0.1	µg/L	1	0	63	50 - 150%	PASS	12	30	PASS
Benzidine	Total	0.00615	1	0.05	0.1	µg/L	1	0	1	0 - 125%	PASS	0	30	PASS
Bis(2-Chloroethoxy) methane	Total	0.951	1	0.05	0.1	µg/L	1	0	95	66 - 122%	PASS	12	30	PASS
Bis(2-Chloroethyl) ether	Total	0.943	1	0.05	0.1	µg/L	1	0	94	43 - 127%	PASS	19	30	PASS
Bis(2-Chloroisopropyl) ether	Total	0.899	1	0.05	0.1	µg/L	1	0	90	49 - 128%	PASS	17	30	PASS
Dibenzofuran	Total	0.881	1	0.05	0.1	µg/L	1	0	88	50 - 150%	PASS	7	30	PASS
Disalicylidenepropanediamin	Total	59.8	1	0.05	0.1	µg/L	50	0	120	50 - 150%	PASS	15	30	PASS
Hexachloroethane	Total	0.704	1	0.05	0.1	µg/L	1	0	70	27 - 130%	PASS	12	30	PASS
Nitrobenzene	Total	0.819	1	0.05	0.1	µg/L	1	0	82	54 - 111%	PASS	14	30	PASS
N-Nitrosodi-n-propylamine	Total	0.84	1	0.05	0.1	µg/L	1	0	84	61 - 152%	PASS	9	30	PASS
N-Nitrosodiphenylamine	Total	0.887	1	0.05	0.1	µg/L	1	0	89	49 - 142%	PASS	3	30	PASS

**Polynuclear Aromatic Hydrocarbons**

**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE
							LEVEL	RESULT	% LIMITS	% LIMITS	
<b>Sample ID: 103730-B1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>		<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-40114		Prepared: 20-Jan-23		Analyzed: 13-Feb-23					
(d10-Acenaphthene)	Total	98	1			% Recovery	100	98	27 - 133%	PASS	
(d10-Phenanthrene)	Total	97	1			% Recovery	100	97	43 - 129%	PASS	
(d12-Chrysene)	Total	104	1			% Recovery	100	104	52 - 144%	PASS	
(d12-Perylene)	Total	96	1			% Recovery	100	96	36 - 161%	PASS	
(d8-Naphthalene)	Total	86	1			% Recovery	100	86	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L					

**Polynuclear Aromatic Hydrocarbons**

**QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
<b>Sample ID: 103730-BS1</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>		<b>Received:</b>		
Method: EPA 625.1		Batch ID: O-40114			Prepared: 20-Jan-23			Analyzed: 13-Feb-23				
(d10-Acenaphthene)	Total	93	1			% Recovery	100	0	93	27 - 133%	PASS	
(d10-Phenanthrene)	Total	93	1			% Recovery	100	0	93	43 - 129%	PASS	
(d12-Chrysene)	Total	102	1			% Recovery	100	0	102	52 - 144%	PASS	
(d12-Perylene)	Total	95	1			% Recovery	100	0	95	36 - 161%	PASS	
(d8-Naphthalene)	Total	80	1			% Recovery	100	0	80	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	48 - 120%	PASS	
2-Methylnaphthalene	Total	1.4	1	0.001	0.005	µg/L	1.5	0	93	47 - 130%	PASS	
Acenaphthene	Total	1.49	1	0.001	0.005	µg/L	1.5	0	99	53 - 131%	PASS	
Acenaphthylene	Total	1.47	1	0.001	0.005	µg/L	1.5	0	98	43 - 140%	PASS	
Anthracene	Total	1.49	1	0.001	0.005	µg/L	1.5	0	99	58 - 135%	PASS	
Benz[a]anthracene	Total	1.6	1	0.001	0.005	µg/L	1.5	0	107	55 - 145%	PASS	
Benzo[a]pyrene	Total	1.57	1	0.001	0.005	µg/L	1.5	0	105	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	1.65	1	0.001	0.005	µg/L	1.5	0	110	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.49	1	0.001	0.005	µg/L	0.5	0	98	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	1.54	1	0.001	0.005	µg/L	1.5	0	103	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	1.59	1	0.001	0.005	µg/L	1.5	0	106	56 - 145%	PASS	
Biphenyl	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	56 - 119%	PASS	
Chrysene	Total	1.65	1	0.001	0.005	µg/L	1.5	0	110	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	1.76	1	0.001	0.005	µg/L	1.5	0	117	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	50 - 150%	PASS	
Dibenzothiophene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	46 - 126%	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	1.53	1	0.001	0.005	µg/L	1.5	0	102	60 - 146%	PASS		
Fluorene	Total	1.55	1	0.001	0.005	µg/L	1.5	0	103	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	1.77	1	0.001	0.005	µg/L	1.5	0	118	50 - 151%	PASS		
Naphthalene	Total	1.3	1	0.001	0.005	µg/L	1.5	0	87	41 - 126%	PASS		
Perylene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	48 - 141%	PASS		
Phenanthrene	Total	1.5	1	0.001	0.005	µg/L	1.5	0	100	67 - 127%	PASS		
Pyrene	Total	1.53	1	0.001	0.005	µg/L	1.5	0	102	54 - 156%	PASS		



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
<b>Sample ID: 103730-BS2</b>		<b>QAQC Procedural Blank</b>			<b>Matrix: BlankMatrix</b>			<b>Sampled:</b>			<b>Received:</b>			
Method: EPA 625.1		Batch ID: O-40114			Prepared: 20-Jan-23			Analyzed: 13-Feb-23						
(d10-Acenaphthene)	Total	96	1			% Recovery	100	0	96	27 - 133%	PASS	3	30	PASS
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129%	PASS	3	30	PASS
(d12-Chrysene)	Total	105	1			% Recovery	100	0	105	52 - 144%	PASS	3	30	PASS
(d12-Perylene)	Total	92	1			% Recovery	100	0	92	36 - 161%	PASS	3	30	PASS
(d8-Naphthalene)	Total	93	1			% Recovery	100	0	93	25 - 125%	PASS	15	30	PASS
1-Methylnaphthalene	Total	0.49	1	0.001	0.005	µg/L	0.5	0	98	31 - 128%	PASS	7	30	PASS
1-Methylphenanthrene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	66 - 127%	PASS	6	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.499	1	0.001	0.005	µg/L	0.5	0	100	55 - 122%	PASS	4	30	PASS
2,6-Dimethylnaphthalene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	48 - 120%	PASS	3	30	PASS
2-Methylnaphthalene	Total	1.52	1	0.001	0.005	µg/L	1.5	0	101	47 - 130%	PASS	8	30	PASS
Acenaphthene	Total	1.57	1	0.001	0.005	µg/L	1.5	0	105	53 - 131%	PASS	6	30	PASS
Acenaphthylene	Total	1.52	1	0.001	0.005	µg/L	1.5	0	101	43 - 140%	PASS	3	30	PASS
Anthracene	Total	1.51	1	0.001	0.005	µg/L	1.5	0	101	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	1.62	1	0.001	0.005	µg/L	1.5	0	108	55 - 145%	PASS	1	30	PASS
Benzo[a]pyrene	Total	1.57	1	0.001	0.005	µg/L	1.5	0	105	51 - 143%	PASS	0	30	PASS
Benzo[b]fluoranthene	Total	1.7	1	0.001	0.005	µg/L	1.5	0	113	46 - 165%	PASS	3	30	PASS
Benzo[e]pyrene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	42 - 152%	PASS	7	30	PASS
Benzo[g,h,i]perylene	Total	1.55	1	0.001	0.005	µg/L	1.5	0	103	63 - 133%	PASS	0	30	PASS
Benzo[k]fluoranthene	Total	1.6	1	0.001	0.005	µg/L	1.5	0	107	56 - 145%	PASS	1	30	PASS
Biphenyl	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	56 - 119%	PASS	3	30	PASS
Chrysene	Total	1.65	1	0.001	0.005	µg/L	1.5	0	110	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	1.76	1	0.001	0.005	µg/L	1.5	0	117	55 - 150%	PASS	0	30	PASS
Dibenzo[a,l]pyrene	Total	0.462	1	0.001	0.005	µg/L	0.5	0	92	50 - 150%	PASS	1	30	PASS
Dibenzothiophene	Total	0.5	1	0.001	0.005	µg/L	0.5	0	100	46 - 126%	PASS	5	30	PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE <sub>c</sub>	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	1.58	1	0.001	0.005	µg/L	1.5	0	105	60 - 146%	PASS	3	30	PASS
Fluorene	Total	1.58	1	0.001	0.005	µg/L	1.5	0	105	58 - 131%	PASS	2	30	PASS
Indeno[1,2,3-cd]pyrene	Total	1.85	1	0.001	0.005	µg/L	1.5	0	123	50 - 151%	PASS	4	30	PASS
Naphthalene	Total	1.49	1	0.001	0.005	µg/L	1.5	0	99	41 - 126%	PASS	13	30	PASS
Perylene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	48 - 141%	PASS	4	30	PASS
Phenanthrene	Total	1.54	1	0.001	0.005	µg/L	1.5	0	103	67 - 127%	PASS	3	30	PASS
Pyrene	Total	1.58	1	0.001	0.005	µg/L	1.5	0	105	54 - 156%	PASS	3	30	PASS



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**PHYSIS**

**TENTATIVELY**

**IDENTIFIED COMPOUNDS**

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 103731

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.8718	6.2799	1111	Anthracene-D10-	1517-22-2	91
10.7985	1.2101	214	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	87

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1\_40114

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.8727	5.3631	1111	Anthracene-D10-	1719-06-8	94
10.8002	1.2601	261	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	87
10.1649	0.4883	101	Cyclopentane, 1,2,3,4,5-pentamethyl-	1000152-79-7	89

Concentration estimated using the response for Anthracene-d10

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# PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC.  
AURA

*Innovative Solutions for Nature*

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**Monrovia, CA (Suite 100)**  
750 Royal Oaks Drive Suite 100  
Monrovia, CA 91016  
Phone: 628-395-1100

**Chain of Custody Record**



Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Client Contact:	Arada, Rachelle	Lab Pk.:	Arada, Rachelle	Carrier Tracking No(s):		CCC No.:	380-26173.1
Shipping/Receiving:		Phone:		E-Mail:	Rachelle.Arada@eurofins.com	State of Origin:	Hawaii	Page:	Page 1 of 1
Company:		Physis Environmental Laboratories		Accreditations Required (See notes):		State - Hawaii		Job #:	380-34654-1
Address:		1804 Wright Circle,		Date Requested:		2/1/2023		Preservation Codes:	
City:		Anaheim		TAT Requested (days):				A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - H <sub>2</sub> SO <sub>4</sub> F - MeOH G - Amelhor H - Acetic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - As <sub>2</sub> O <sub>3</sub> P - Na <sub>2</sub> O <sub>4</sub> S Q - Na <sub>2</sub> SO <sub>3</sub> R - Na <sub>2</sub> SO <sub>4</sub> S - H <sub>2</sub> SO <sub>4</sub> T - TSP Dodecylhydrate U - Ascorbic Acid V - MCAA W - pH 4.5 Y - Thera Z - other (specify)	
State, Zip:		CA, 92806		PO #:				Other:	
Phone:				WO #:					
Email:				Project #:		38001111			
Project Name:		RED-HILL		SSOW#:					
Site:		Honolulu BWS Sites							
<b>Sample Identification - Client ID (Lab ID)</b>		HALAWA WELLS PUMP 1 (380-34654-1)		Sample Date		1/17/23		Sample Time	
				Sample Time		10:37		Matrix (Water, Seawater, Other)	
				Preservation Code:		Water		Field Filtered Sample (Yes or No)	
								Perform MS/MSD (Yes or No)	
								SUB (625 Acid/Base/PAH + TICs) / 625 Acid/Base/PAH + TICs	
								Total Number of containers	
								6	
								Special Instructions/Note:	
								See Attached Instructions	

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyze & accreditation compliance upon our subcontracted 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/testing/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 Eurofins Eaton Analytical, LLC.

**Possible Hazard Identification**

Unacclaimed  
Deliverable Requested: I, II, III, IV, Other (specify) \_\_\_\_\_  
Primary Deliverable Rank: 2  
Special Instructions/QC Requirements: \_\_\_\_\_

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

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

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

Custody Seals Intact:  Yes  No  
Custody Seal No.: \_\_\_\_\_  
Cooler Temperature(s) °C and Other Remarks: \_\_\_\_\_

Project Iteration ID: 1407003-364  
 Client Name: Eurofins Eaton Analytical  
 Project Name: RED-HILL Project # 38001111 Job # 380-34654-1  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

## Sample Receipt Summary

### Receiving Info

1. Initials Received By: DA
2. Date Received: 11/19/23
3. Time Received: 15:30
4. Client Name: Eurofins
5. Courier Information: (Please circle)
  - Client
  - UPS
  - Area Fast
  - DRS
  - FedEx
  - GSO/GLS
  - Ontrac
  - PAMS
  - PHYSIS Driver:
    - i. Start Time: \_\_\_\_\_
    - ii. End Time: \_\_\_\_\_
  - Total Mileage: \_\_\_\_\_
  - Number of Pickups: \_\_\_\_\_
6. Container Information: (Please put the # of containers or circle none)
  - Cooler
  - Styrofoam Cooler
  - Boxes
  - None
  - Carboy(s)
  - Carboy Trash Can(s)
  - Carboy Cap(s)
  - Other \_\_\_\_\_
7. What type of ice was used: (Please circle any that apply)
  - Wet Ice
  - Blue Ice
  - Dry Ice
  - Water
  - None
8. Randomly Selected Samples Temperature (°C): 1.0 Used I/R Thermometer # 1-2

### Inspection Info

1. Initials Inspected By: DA

### Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out.....  Yes /  No
2. All sample containers arrived intact.....  Yes /  No
3. All samples listed on COC(s) are present.....  Yes /  No
4. Information on containers consistent with information on COC(s).....  Yes /  No
5. Correct containers and volume for all analyses indicated.....  Yes /  No
6. All samples received within method holding time.....  Yes /  No
7. Correct preservation used for all analyses indicated.....  Yes /  No
8. Name of sampler included on COC(s).....  Yes /  No

Notes:



Monrovia, CA (Suite 100)

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

Chain of Custody Record

<b>Client Information</b>		Sampler:		Lab PM:		Carrier Tracking No(s):		CDC No:			
Client Contact: Dr. Ron Fenstermacher		Phone:		Arada, Rachelle		State of Origin:		380-21926-1845.2			
Company: City & County of Honolulu		FWSID:		E-Mail: Rachelle.Arada@et.eurofinsus.com		Page:		Page 2 of 4			
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		<b>Analysis Requested</b>						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)	
City: Honolulu		TAT Requested (days):									
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No									
Phone: 808-748-6091(Tel)		PO#: C20525101 exp 05312023									
Email: RFENSTEMACHER@hbws.org		WO#:									
Project Name: RED-HILL		Project #: 38001111									
Site: Hawaii		SSDW#:		SUBCONTRACT - 8015 Ethanol		SUBCONTRACT - 625 PAH Physcis LL (EAL) + TICs		SUBCONTRACT - 625 Base Neutral LL (EAL) Physcis			
				SUBCONTRACT - 625 Acid LL (EAL) Physcis		624.3_SILV_PREC - Low Level TCPIED/DBCP		SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)			
						504.1_PREC - Local Method					
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=comp, G=grab)</b>		<b>Matrix (Water, Solid, Gas, etc.)</b>			
								<b>Special Instructions/Note:</b>			
								Preservation Code: X R R R RA R			
								Water			
								Water			
								Water			
HALAWA WELLS UNITS 1&2 Pump 1		1-17-2023		1037		G		Water			
WL 1-17-2023								Water			
								Water			
								Water			
								Water			
								Water			
								Water			
								Water			
WB: HALAWA WELLS UNITS 1&2 Pump 1		1-17-2023		1037				Water			
								Temp blank: 4°C			
<b>Possible Hazard Identification</b>					<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements: FEDEX 7710 5229 { #1 7615 #2 1617 #3 7269						
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:				
Relinquished by: L. Coan LL			Date/Time: 1-17-2023 1300		Company: BWS		Received by: G. REITNER 01/18/2023 10:00				
Relinquished by:			Date/Time:		Company:		Received by:				
Relinquished by:			Date/Time:		Company:		Received by:				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks: (752A) #1 - 4.8°-4.9° #2 - 1.2°-1.1° #3 - 3.9°-3.8° } GEL-FROZEN						



**Bottle Order Information**

Bottle Order: RED-HILL - Quarterly  
 Bottle Order #: 1845  
 Request From Client: 12/14/2022  
 Date Order Posted: 6/23/2022 7:29:27AM  
 Order Status: Ready To Process  
 Prepared By: Davis Haley  
 Deliver By Date: 12/28/2022 11:59:00PM  
 Lab Project Number: 38001111  
 PWSID: HI00000331

**Order Completion Information**

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

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
7	6	42	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	504.1_PREC - Local Method	Water	Normal		
					505_LL_PREC - (MOD) ML505 +505-EAL Aldrin Dieldrin Tox	Water	Normal		
7	1	7	Plastic 250ml - unpreserved	None	2320B - (MOD) Total Alkalinity	Water	Normal		
					SM4500_H+ - Local Method	Water	Normal		
					2510B - Conductivity	Water	Normal		
7	1	7	Plastic 500ml - with Nitric Acid	Nitric Acid	200.8 - Metals, Priority Pollutant by 200.8	Water	Normal		
					200.7 - (MOD) Custom	Water	Normal		
7	1	7	Plastic 500ml - unpreserved	None	2540C_Calcd - Total Dissolved Solids (TDS)	Water	Normal		
7	1	7	Plastic 250ml - with Zinc Acetate & NaOH	Zinc Acetate and Sodium Hydroxide	SM4500_S2_D - Sulfide, Total	Water	Normal		
7	6	42	Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	524.2_Pres_PREC - VOASDWA plus TICs + Acetone	Water	Normal	1 out of 6 ARRIVED BROKEN - GR	
					524.2_SIM_PREC - TBA by 524.2 SIM	Water	Normal	1 out of 6 HAS ICE FORMATION - GR	
7	3	21	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - 525plus Plus TICs	Water	Normal		
7	2	14	Plastic 125mL - unpreserved	None	300_OF_28D_B - Bromide	Water	Normal		
					4500_F_C - Fluoride	Water	Normal		
					300_OF_28D_PREC - Chloride and Sulfate	Water	Normal		
					300_OF_48H_PREC - Nitrite, Nitrate, and Nitrite+Nitrate	Water	Normal		
7	1	7	Plastic 250ml - with Nitric Acid	Nitric Acid	245.1 - Local Method	Water	Normal		

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

7	2	14	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Jet Fuel 8 (JP8)	Water	Normal	
7	2	14	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Jet Fuel 5 (JP5)	Water	Normal	
7	2	14	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal	
7	3	21	Voa Vial 40ml - SodiumThio w/HCL-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal	2 OUT OF 3 HAVE ICE FORMATION - GP
7	3	21	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Ethanol	Water	Normal	
7	2	14	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	
7	2	14	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 Base Neutral LL (EAL) Physis	Water	Normal	
7	2	14	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 Acid LL (EAL) Physis	Water	Normal	
7	3	21	Voa Vial 40ml Amber - Ascorbic & Maleic	Ascorbic Acid/Maleic	524.3_SIM_PREC - Low Level TCP/EDB/DBCP	Water	Normal	1 OUT OF 3 APPROVED BROKEN - GP
7	2	14	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank	1 OUT OF 2 APPROVED BROKEN - GP
7	6	42	Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	524.2_Pres_PREC - VOASDWA plus TICs + Acetone	Water	Trip Blank	ONLY RECEIVED 2 OUT OF 6 - GP
					524.2_SIM_PREC - TBA by 524.2 SIM	Water	Trip Blank	
7	3	21	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	504.1_PREC - Local Method	Water	Trip Blank	ONLY RECEIVED 2 OUT OF 3 - GP
7	2	14	Voa Vial 40ml Amber - Ascorbic & Maleic	Ascorbic Acid/Maleic	524.3_SIM_PREC - Low Level TCP/EDB/DBCP	Water	Trip Blank	

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

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

# Chain of Custody Record



eurofins

Environment Testing

<b>Client Information (Sub Contract Lab)</b>		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact:		Arada, Rachelle	Arada, Rachelle	380-35072.1	380-35072.1
Shipping/Receiving:		E-Mail:	Rachelle.Arada@et.eurofins.com	State of Origin:	Page:
Company:		Eurofins Eaton Analytical		Hawaii	Page 1 of 1
Address:		110 S Hill Street,		Job #:	380-34654-1
City:		South Bend		<b>Preservation Codes:</b>	
State, Zip:		IN, 46617		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone:		574-233-4777(Tel) 574-233-8207(Fax)		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Y - Tizma Z - other (specify)	
Email:					
Project Name:		RED-HILL			
Site:		Honolulu BWS Sites			
Due Date Requested:		2/7/2023			
TAT Requested (days):					
PO #:					
WO #:					
Project #:		38001111			
SSOW#:					
Sample Date		Sample Time	Sample Type (C=comp, G=grab)	Matrix (Inwater, Swab, Overstake)	Preservation Code:
1/17/23	10:37 Hawaiian			Water	
Sample Identification - Client ID (Lab ID)					
HALAWA WELLS PUMP 1 (380-34654-1)					
Special Instructions/Note:					
pH Acceptable					
Total Number of Containers					
1					
Perform MS/MSD (Yes or No)					
X					
Field Filtered Sample (Yes or No)					
X					
245.1/245.1 Prep Mercury by 245.1					
Special Instructions/QC Requirements:					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Empty Kit Relinquished by:					
Date/Time:					
Relinquished by: G. PETER					
Date/Time: 01/19/2023 09:50 EDT					
Relinquished by:					
Date/Time:					
Relinquished by:					
Date/Time:					
Custody Seals Intact: Custody Seal No.:					
Δ Yes Δ No					
Received by: XLP					
Date/Time: 1/20/2023 08:45					
Company: EAT					
Cooler Temperature(s) °C and Other Remarks:					



# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-34654-1

**Login Number: 34654**  
**List Number: 1**  
**Creator: Segura, Ryan**

**List Source: Eurofins Drinking Water Testing Pomona**

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

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-34654-1

**Login Number: 34654**  
**List Number: 2**  
**Creator: Blackburn, Kelly**

**List Source: Eurofins Eaton South Bend**  
**List Creation: 01/20/23 12:18 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

