

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-90531-1

Eurofins Eaton Analytical Pomona

Job Notes

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

Compliance Statement

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

Authorization



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Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	6
Detection Summary	7
Client Sample Results	8
Action Limit Summary	16
Surrogate Summary	19
QC Sample Results	21
QC Association Summary	59
Lab Chronicle	65
Certification Summary	66
Method Summary	70
Sample Summary	71
Chain of Custody	72
Receipt Checklists	77

Definitions/Glossary

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

Job ID: 380-90531-1

Qualifiers

GC/MS 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.

GC/MS VOA TICs

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

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

GC Semi VOA

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

HPLC/IC

Qualifier	Qualifier Description
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
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"

Definitions/Glossary

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

Job ID: 380-90531-1

Glossary (Continued)

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

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

Case Narrative

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

Job ID: 380-90531-1

Job ID: 380-90531-1

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Job Narrative 380-90531-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

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

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

Receipt

The samples were received on 4/9/2024 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.1°C and 1.2°C.

GC/MS VOA

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

GC/MS Semi VOA

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

GC Semi VOA

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

HPLC/IC

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

Metals

Method 200.8: The continuing calibration blank (CCB) for analytical batch 380-85496 contained Silver above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte ; 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 additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bromide	170		5.0	ug/L	1		300.0	Total/NA
Chloride	92		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	0.52		0.050	mg/L	1		300.0	Total/NA
Sulfate	13		0.25	mg/L	1		300.0	Total/NA
Calcium	20		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	16		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.2		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	30		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	1.8		1.0	ug/L	1		200.8	Total/NA
Copper	2.5		2.0	ug/L	1		200.8	Total/NA
Alkalinity	53		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	53		2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	450		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	300		20	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-2

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	<0.50		0.50	ug/L			04/14/24 19:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			04/11/24 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		04/11/24 17:06	1
4-Bromofluorobenzene (Surr)	99		70 - 130		04/11/24 17:06	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		04/11/24 17:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 19:20	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/14/24 19:20	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/14/24 19:20	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/14/24 19:20	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/14/24 19:20	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/14/24 19:20	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/14/24 19:20	1
Acetone	<500		500	ug/L			04/14/24 19:20	1
Benzene	<0.50		0.50	ug/L			04/14/24 19:20	1
Bromobenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
Bromochloromethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Bromodichloromethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Bromoethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Bromoform	<0.50		0.50	ug/L			04/14/24 19:20	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/14/24 19:20	1
Carbon disulfide	<0.50		0.50	ug/L			04/14/24 19:20	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/14/24 19:20	1
Chlorobenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Chloroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/14/24 19:20	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/14/24 19:20	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 19:20	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/14/24 19:20	1
Dibromomethane	<0.50		0.50	ug/L			04/14/24 19:20	1

Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Dichloromethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Diisopropyl ether	<3.0		3.0	ug/L			04/14/24 19:20	1
Ethylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/14/24 19:20	1
Isopropylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
m,p-Xylenes	<0.50		0.50	ug/L			04/14/24 19:20	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/14/24 19:20	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/14/24 19:20	1
Naphthalene	<0.50		0.50	ug/L			04/14/24 19:20	1
n-Butylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
N-Propylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/14/24 19:20	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/14/24 19:20	1
o-Xylene	<0.50		0.50	ug/L			04/14/24 19:20	1
p-Chlorotoluene	<0.50		0.50	ug/L			04/14/24 19:20	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/14/24 19:20	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/14/24 19:20	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
Styrene	<0.50		0.50	ug/L			04/14/24 19:20	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/14/24 19:20	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/14/24 19:20	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/14/24 19:20	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/14/24 19:20	1
Toluene	<0.50		0.50	ug/L			04/14/24 19:20	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 19:20	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/14/24 19:20	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/14/24 19:20	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/14/24 19:20	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/14/24 19:20	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/14/24 19:20	1
Xylenes, Total	<0.50		0.50	ug/L			04/14/24 19:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.63	T J	ug/L		12.44	N/A		04/14/24 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		04/14/24 19:20	1
4-Bromofluorobenzene (Surr)	97		70 - 130		04/14/24 19:20	1
Toluene-d8 (Surr)	95		70 - 130		04/14/24 19:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
2,4'-DDE	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
2,4'-DDT	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
4,4'-DDD	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
4,4'-DDE	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDT	<0.098	^3+	0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Acenaphthene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Acenaphthylene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Acetochlor	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Alachlor	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
alpha-BHC	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
alpha-Chlordane	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Anthracene	<0.020	F1	0.020	ug/L		04/11/24 08:23	04/11/24 16:40	1
Atrazine	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Benzo[a]pyrene	<0.020		0.020	ug/L		04/11/24 08:23	04/11/24 16:40	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		04/11/24 08:23	04/11/24 16:40	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		04/11/24 08:23	04/11/24 16:40	1
beta-BHC	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		04/11/24 08:23	04/11/24 16:40	1
Bromacil	<0.098	*+ F1 ^+	0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Butachlor	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/11/24 08:23	04/11/24 16:40	1
Chlorobenzilate	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Chloroneb	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Chlorpyrifos	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Chrysene	<0.020	^3+	0.020	ug/L		04/11/24 08:23	04/11/24 16:40	1
delta-BHC	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		04/11/24 08:23	04/11/24 16:40	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Dieldrin	<0.20		0.20	ug/L		04/11/24 08:23	04/11/24 16:40	1
Diethylphthalate	<0.49		0.49	ug/L		04/11/24 08:23	04/11/24 16:40	1
Dimethylphthalate	<0.49		0.49	ug/L		04/11/24 08:23	04/11/24 16:40	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		04/11/24 08:23	04/11/24 16:40	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Endosulfan sulfate	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Endrin	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Endrin aldehyde	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
EPTC	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Fluoranthene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Fluorene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		04/11/24 08:23	04/11/24 16:40	1
gamma-Chlordane	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Heptachlor	<0.039		0.039	ug/L		04/11/24 08:23	04/11/24 16:40	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Isophorone	<0.49		0.49	ug/L		04/11/24 08:23	04/11/24 16:40	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Malathion	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Methoxychlor	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Metolachlor	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Molinate	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Naphthalene	<0.29		0.29	ug/L		04/11/24 08:23	04/11/24 16:40	1
Parathion	<0.098	*+ F1	0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Pendimethalin (Penoxaline)	<0.098	*+ F1	0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Phenanthrene	<0.039		0.039	ug/L		04/11/24 08:23	04/11/24 16:40	1
Propachlor	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Pyrene	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Simazine	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Terbacil	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Terbutylazine	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
Thiobencarb	<0.20		0.20	ug/L		04/11/24 08:23	04/11/24 16:40	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		04/11/24 08:23	04/11/24 16:40	1
trans-Nonachlor	<0.049		0.049	ug/L		04/11/24 08:23	04/11/24 16:40	1
Trifluralin	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
1-Methylnaphthalene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1
2-Methylnaphthalene	<0.098		0.098	ug/L		04/11/24 08:23	04/11/24 16:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	04/11/24 08:23	04/11/24 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	102		70 - 130	04/11/24 08:23	04/11/24 16:40	1
Perylene-d12	95		70 - 130	04/11/24 08:23	04/11/24 16:40	1
Triphenylphosphate	112		70 - 130	04/11/24 08:23	04/11/24 16:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.020		0.020	ug/L		04/11/24 16:00	04/12/24 01:02	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		04/11/24 16:00	04/12/24 01:02	1
1,2-Dibromoethane	<0.010		0.010	ug/L		04/11/24 16:00	04/12/24 01:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	104		60 - 140	04/11/24 16:00	04/12/24 01:02	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0099		0.0099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Dieldrin	<0.0099		0.0099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Toxaphene	<0.49		0.49	ug/L		04/11/24 14:25	04/12/24 06:03	1
Alachlor	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Chlordane (n.o.s.)	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Endrin	<0.0099		0.0099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Heptachlor	<0.0099		0.0099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Heptachlor epoxide	<0.0099		0.0099	ug/L		04/11/24 14:25	04/12/24 06:03	1
gamma-BHC (Lindane)	<0.0099		0.0099	ug/L		04/11/24 14:25	04/12/24 06:03	1
Methoxychlor	<0.049		0.049	ug/L		04/11/24 14:25	04/12/24 06:03	1
PCB-1016	<0.069		0.069	ug/L		04/11/24 14:25	04/12/24 06:03	1
PCB-1221	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1
PCB-1242	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1
PCB-1248	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1
PCB-1254	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1
PCB-1260	<0.069		0.069	ug/L		04/11/24 14:25	04/12/24 06:03	1
Polychlorinated biphenyls, Total	<0.099		0.099	ug/L		04/11/24 14:25	04/12/24 06:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	114		70 - 130	04/11/24 14:25	04/12/24 06:03	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	170		5.0	ug/L			04/11/24 05:09	1
Chloride	92		2.5	mg/L			04/10/24 23:17	5
Nitrate as N	0.52		0.050	mg/L			04/10/24 03:56	1
Nitrite as N	<0.050		0.050	mg/L			04/10/24 03:56	1
Sulfate	13		0.25	mg/L			04/10/24 03:56	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	20		1.0	mg/L			04/11/24 18:11	1
Magnesium	16		0.10	mg/L			04/11/24 18:11	1
Potassium	2.2		1.0	mg/L			04/11/24 18:11	1
Sodium	30		1.0	mg/L			04/11/24 18:11	1

Method: EPA 200.8 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L			04/10/24 20:28	1
Arsenic	<1.0		1.0	ug/L			04/10/24 20:28	1
Beryllium	<1.0		1.0	ug/L			04/10/24 20:28	1
Cadmium	<0.50		0.50	ug/L			04/10/24 20:28	1
Chromium	1.8		1.0	ug/L			04/10/24 20:28	1
Copper	2.5		2.0	ug/L			04/10/24 20:28	1
Lead	<0.50		0.50	ug/L			04/10/24 20:28	1
Nickel	<5.0		5.0	ug/L			04/10/24 20:28	1
Selenium	<5.0		5.0	ug/L			04/10/24 20:28	1
Silver	<0.50		0.50	ug/L			04/10/24 20:28	1
Thallium	<1.0		1.0	ug/L			04/10/24 20:28	1
Zinc	<20		20	ug/L			04/10/24 20:28	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		04/11/24 16:19	04/11/24 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	53		2.0	mg/L			04/12/24 16:15	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	53		2.0	mg/L			04/12/24 16:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.0		2.0	mg/L			04/12/24 16:15	1

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Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance (SM 2510B)	450		2.0	umhos/cm			04/12/24 16:15	1
Total Dissolved Solids (SM 2540C)	300		20	mg/L			04/10/24 13:06	1
Fluoride (SM 4500 F C)	<0.050		0.050	mg/L			04/12/24 15:46	1
pH (SM 4500 H+ B)	8.0	HF		SU			04/12/24 16:15	1
Sulfide (SM 4500 S2 D)	<0.050		0.050	mg/L			04/11/24 09:33	1

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-2

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	<0.50		0.50	ug/L			04/14/24 19:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			04/11/24 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		04/11/24 17:28	1
4-Bromofluorobenzene (Surr)	100		70 - 130		04/11/24 17:28	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		04/11/24 17:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/14/24 19:42	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/14/24 19:42	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/14/24 19:42	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/14/24 19:42	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/14/24 19:42	1
Acetone	<500		500	ug/L			04/14/24 19:42	1
Benzene	<0.50		0.50	ug/L			04/14/24 19:42	1
Bromobenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
Bromochloromethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Bromodichloromethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Bromoform	<0.50		0.50	ug/L			04/14/24 19:42	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/14/24 19:42	1
Carbon disulfide	<0.50		0.50	ug/L			04/14/24 19:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-2

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.50		0.50	ug/L			04/14/24 19:42	1
Chlorobenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Chloroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/14/24 19:42	1
Dichloromethane	<0.50		0.50	ug/L			04/14/24 19:42	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 19:42	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/14/24 19:42	1
Dibromomethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Ethylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/14/24 19:42	1
Isopropylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
m,p-Xylenes	<0.50		0.50	ug/L			04/14/24 19:42	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/14/24 19:42	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/14/24 19:42	1
Naphthalene	<0.50		0.50	ug/L			04/14/24 19:42	1
n-Butylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
N-Propylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/14/24 19:42	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/14/24 19:42	1
o-Xylene	<0.50		0.50	ug/L			04/14/24 19:42	1
p-Chlorotoluene	<0.50		0.50	ug/L			04/14/24 19:42	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/14/24 19:42	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/14/24 19:42	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
Styrene	<0.50		0.50	ug/L			04/14/24 19:42	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/14/24 19:42	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/14/24 19:42	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/14/24 19:42	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/14/24 19:42	1
Toluene	<0.50		0.50	ug/L			04/14/24 19:42	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/14/24 19:42	1
Xylenes, Total	<0.50		0.50	ug/L			04/14/24 19:42	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 19:42	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/14/24 19:42	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/14/24 19:42	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/14/24 19:42	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/14/24 19:42	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Bromoethane	<0.50		0.50	ug/L			04/14/24 19:42	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/14/24 19:42	1
Diisopropyl ether	<3.0		3.0	ug/L			04/14/24 19:42	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Furfural	1.2	T J N	ug/L		10.17	98-01-1		04/14/24 19:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		04/14/24 19:42	1
4-Bromofluorobenzene (Surr)	99		70 - 130		04/14/24 19:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-90531-1

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-2

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

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

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Toluene-d8 (Surr)	97		70 - 130		04/14/24 19:42	1

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

<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>RL</u>	<u>Unit</u>	<u>D</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
1,2,3-Trichloropropane	<0.020		0.020	ug/L		04/13/24 14:00	04/14/24 07:52	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		04/13/24 14:00	04/14/24 07:52	1
1,2-Dibromoethane	<0.010		0.010	ug/L		04/13/24 14:00	04/14/24 07:52	1

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
1,2-Dibromopropane (Surr)	106		60 - 140	04/13/24 14:00	04/14/24 07:52	1

Action Limit Summary

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	EPAMCL S Limit	Method	Prep Type
Trihalomethanes, Total	<0.50		ug/L		80		524.2	Total/NA
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200		524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7		524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L	0.6000			524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50		ug/L	70.00	70		524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5		524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5		524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5		524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100		524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70		524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5		524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700		524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600		524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75		524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100		524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000		524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100		524.2	Total/NA
Trichloroethylene (TCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Vinyl Chloride (VC)	<0.30		ug/L	2.000	2		524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000		524.2	Total/NA
Alachlor	<0.049		ug/L		2		525.2	Total/NA
Atrazine	<0.049		ug/L		3		525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L		0.2		525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L		6		525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L		400		525.2	Total/NA
Endrin	<0.098		ug/L		2		525.2	Total/NA
gamma-BHC (Lindane)	<0.039		ug/L		0.2		525.2	Total/NA
Heptachlor	<0.039		ug/L		0.4		525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L		0.2		525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L		1		525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L		50		525.2	Total/NA
Methoxychlor	<0.098		ug/L		40		525.2	Total/NA
Simazine	<0.049		ug/L		4		525.2	Total/NA
1,2,3-Trichloropropane	<0.020		ug/L	0.6000			504.1	Total/NA
1,2-Dibromo-3-Chloropropane	<0.010		ug/L		0.2		504.1	Total/NA
1,2-Dibromoethane	<0.010		ug/L		0.05		504.1	Total/NA
Toxaphene	<0.49		ug/L		3		505	Total/NA
Alachlor	<0.099		ug/L		2		505	Total/NA
Chlordane (n.o.s.)	<0.099		ug/L		2		505	Total/NA
Endrin	<0.0099		ug/L		2		505	Total/NA
Heptachlor	<0.0099		ug/L		0.4		505	Total/NA
Heptachlor epoxide	<0.0099		ug/L		0.2		505	Total/NA
gamma-BHC (Lindane)	<0.0099		ug/L		0.2		505	Total/NA
Methoxychlor	<0.049		ug/L		40		505	Total/NA
Polychlorinated biphenyls, Total	<0.099		ug/L		0.5		505	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2 (Continued)

Lab Sample ID: 380-90531-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	EPAMCL	Method	Prep Type
						S		
Chloride	92		mg/L			250	300.0	Total/NA
Nitrate as N	0.52		mg/L		10		300.0	Total/NA
Nitrite as N	<0.050		mg/L		1		300.0	Total/NA
Sulfate	13		mg/L			250	300.0	Total/NA
Antimony	<1.0		ug/L		6		200.8	Total/NA
Arsenic	<1.0		ug/L		10		200.8	Total/NA
Beryllium	<1.0		ug/L		4		200.8	Total/NA
Cadmium	<0.50		ug/L		5		200.8	Total/NA
Chromium	1.8		ug/L		100		200.8	Total/NA
Copper	2.5		ug/L			1300	200.8	Total/NA
Lead	<0.50		ug/L		15.000		200.8	Total/NA
Selenium	<5.0		ug/L		50		200.8	Total/NA
Silver	<0.50		ug/L			100	200.8	Total/NA
Thallium	<1.0		ug/L		2		200.8	Total/NA
Zinc	<20		ug/L			5000	200.8	Total/NA
Mercury	<0.10		ug/L		2		245.1	Total/NA
Total Dissolved Solids	300		mg/L			500	SM 2540C	Total/NA
Fluoride	<0.050		mg/L		4	2	SM 4500 F C	Total/NA

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-2

Compliance Check

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

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-90531-1

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2
(Continued)

Lab Sample ID: 380-90531-2

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-90531-1

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)
380-90531-1	AIEA GULCH WELLS PUMP 2	99	99	100
380-90531-2	TB: AIEA GULCH WELLS PUMF 2	101	100	100
LCS 380-85520/19	Lab Control Sample	100	100	99
LCSD 380-85520/20	Lab Control Sample Dup	100	99	101
MB 380-85520/22	Method Blank	100	100	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 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 380-85520/21	Lab Control Sample	100	98	101

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (70-130)	BFB (70-130)	TOL (70-130)
380-90531-1	AIEA GULCH WELLS PUMP 2	101	97	95
380-90531-2	TB: AIEA GULCH WELLS PUMF 2	103	99	97
LCS 380-85829/5	Lab Control Sample	103	100	100
LCSD 380-85829/6	Lab Control Sample Dup	100	98	99
MB 380-85829/8	Method Blank	103	101	99
MRL 380-85829/3	Lab Control Sample	105	98	97
MRL 380-85829/4	Lab Control Sample	104	100	98

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

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-90531-1	AIEA GULCH WELLS PUMP 2	102	95	112
380-90531-1 MS	AIEA GULCH WELLS PUMP 2	101	99	114

Eurofins Eaton Analytical Pomona

Surrogate Summary

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

Job ID: 380-90531-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-90531-1 MSD	AIEA GULCH WELLS PUMP 2	101	96	111
LCS 380-85242/23-A	Lab Control Sample	100	99	113
LCSD 380-85242/24-A	Lab Control Sample Dup	99	99	115
MB 380-85242/21-A	Method Blank	103	99	111
MRL 380-85242/22-A	Lab Control Sample	101	98	106

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DBPP1 (60-140)
380-90531-1	AIEA GULCH WELLS PUMP 2	104
380-90531-2	TB: AIEA GULCH WELLS PUMF 2	106
380-90796-BQ-1-B MS	Matrix Spike	101
380-90796-BQ-1-C DU	Duplicate	99
380-90805-BU-1-B MS	Matrix Spike	98
380-90805-BU-1-C DU	Duplicate	104
LCS 380-85451/29-A	Lab Control Sample	106
LCS 380-85697/29-A	Lab Control Sample	100
MBL 380-85451/4-A	Method Blank	102
MBL 380-85697/4-A	Method Blank	98
MRL 380-85451/2-A	Lab Control Sample	101
MRL 380-85451/3-A	Lab Control Sample	102
MRL 380-85697/2-A	Lab Control Sample	102
MRL 380-85697/3-A	Lab Control Sample	99

Surrogate Legend

DBPP = 1,2-Dibromopropane (Surr)

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		TCX1 (70-130)
380-90336-F-1-A MS	Matrix Spike	99
380-90336-G-1-A MS	Matrix Spike	109
380-90338-F-1-A MS	Matrix Spike	92
380-90338-G-1-A MS	Matrix Spike	106
380-90531-1	AIEA GULCH WELLS PUMP 2	114
MB 380-85428/3-A	Method Blank	96
MRL 380-85428/1-A	Lab Control Sample	99
MRL 380-85428/2-A	Lab Control Sample	96

Surrogate Legend

TCX = Tetrachloro-m-xylene

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: MB 380-85829/8
Matrix: Water
Analysis Batch: 85829

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,1-Dichloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,1-Dichlorethylene	<0.50		0.50	ug/L			04/14/24 15:15	1
1,1-Dichloropropene	<0.50		0.50	ug/L			04/14/24 15:15	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
1,2,4-Trimethylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
1,2-Dichloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,2-Dichloropropane	<0.50		0.50	ug/L			04/14/24 15:15	1
1,3,5-Trimethylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
1,3-Dichloropropane	<0.50		0.50	ug/L			04/14/24 15:15	1
2,2-Dichloropropane	<0.50		0.50	ug/L			04/14/24 15:15	1
2-Butanone (MEK)	<5.0		5.0	ug/L			04/14/24 15:15	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			04/14/24 15:15	1
Acetone	<500		500	ug/L			04/14/24 15:15	1
Benzene	<0.50		0.50	ug/L			04/14/24 15:15	1
Bromobenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
Bromochloromethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Bromodichloromethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Bromoform	<0.50		0.50	ug/L			04/14/24 15:15	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			04/14/24 15:15	1
Carbon disulfide	<0.50		0.50	ug/L			04/14/24 15:15	1
Carbon tetrachloride	<0.50		0.50	ug/L			04/14/24 15:15	1
Chlorobenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
Chlorodibromomethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Chloroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			04/14/24 15:15	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 15:15	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			04/14/24 15:15	1
Dibromomethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Dichloromethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Ethylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
Hexachlorobutadiene	<0.50		0.50	ug/L			04/14/24 15:15	1
Isopropylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
m,p-Xylenes	<0.50		0.50	ug/L			04/14/24 15:15	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			04/14/24 15:15	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			04/14/24 15:15	1
Naphthalene	<0.50		0.50	ug/L			04/14/24 15:15	1
n-Butylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
N-Propylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
o-Chlorotoluene	<0.50		0.50	ug/L			04/14/24 15:15	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			04/14/24 15:15	1
o-Xylene	<0.50		0.50	ug/L			04/14/24 15:15	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: MB 380-85829/8
Matrix: Water
Analysis Batch: 85829

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	<0.50		0.50	ug/L			04/14/24 15:15	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			04/14/24 15:15	1
p-Isopropyltoluene	<0.50		0.50	ug/L			04/14/24 15:15	1
sec-Butylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
Styrene	<0.50		0.50	ug/L			04/14/24 15:15	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			04/14/24 15:15	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			04/14/24 15:15	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			04/14/24 15:15	1
tert-Butylbenzene	<0.50		0.50	ug/L			04/14/24 15:15	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			04/14/24 15:15	1
Toluene	<0.50		0.50	ug/L			04/14/24 15:15	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			04/14/24 15:15	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			04/14/24 15:15	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			04/14/24 15:15	1
Bromoethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			04/14/24 15:15	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			04/14/24 15:15	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			04/14/24 15:15	1
Diisopropyl ether	<3.0		3.0	ug/L			04/14/24 15:15	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			04/14/24 15:15	1
Xylenes, Total	<0.50		0.50	ug/L			04/14/24 15:15	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A		04/14/24 15:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		04/14/24 15:15	1
4-Bromofluorobenzene (Surr)	101		70 - 130		04/14/24 15:15	1
Toluene-d8 (Surr)	99		70 - 130		04/14/24 15:15	1

Lab Sample ID: LCS 380-85829/5
Matrix: Water
Analysis Batch: 85829

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	4.44		ug/L		89	70 - 130
1,1,1-Trichloroethane	5.00	4.55		ug/L		91	70 - 130
1,1,1,2,2-Tetrachloroethane	5.00	4.66		ug/L		93	70 - 130
1,1,1,2-Trichloroethane	5.00	5.11		ug/L		102	70 - 130
1,1-Dichloroethane	5.00	4.74		ug/L		95	70 - 130
1,1-Dichloroethylene	5.00	4.80		ug/L		96	70 - 130
1,1-Dichloropropene	5.00	4.61		ug/L		92	70 - 130
1,2,3-Trichlorobenzene	5.00	4.43		ug/L		89	70 - 130
1,2,3-Trichloropropane	5.00	4.48		ug/L		90	70 - 130
1,2,4-Trichlorobenzene	5.00	4.53		ug/L		91	70 - 130
1,2,4-Trimethylbenzene	5.00	4.39		ug/L		88	70 - 130
1,2-Dichloroethane	5.00	4.77		ug/L		95	70 - 130
1,2-Dichloropropane	5.00	4.79		ug/L		96	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: LCS 380-85829/5
Matrix: Water
Analysis Batch: 85829

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethylbenzene	5.00	4.53		ug/L		91	70 - 130
1,3-Dichloropropane	5.00	4.71		ug/L		94	70 - 130
2,2-Dichloropropane	5.00	4.94		ug/L		99	70 - 130
2-Butanone (MEK)	50.0	44.1		ug/L		88	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	46.3		ug/L		93	70 - 130
Acetone	50.0	48.0	J	ug/L		96	70 - 130
Benzene	5.00	4.67		ug/L		93	70 - 130
Bromobenzene	5.00	4.44		ug/L		89	70 - 130
Bromochloromethane	5.00	5.72		ug/L		114	70 - 130
Bromodichloromethane	5.00	4.42		ug/L		88	70 - 130
Bromoform	5.00	4.36		ug/L		87	70 - 130
Bromomethane (Methyl Bromide)	5.00	4.93		ug/L		99	70 - 130
Carbon disulfide	5.00	4.72		ug/L		94	70 - 130
Carbon tetrachloride	5.00	4.54		ug/L		91	70 - 130
Chlorobenzene	5.00	4.56		ug/L		91	70 - 130
Chlorodibromomethane	5.00	4.59		ug/L		92	70 - 130
cis-1,3-Dichloropropene	5.00	4.68		ug/L		94	70 - 130
Dichloromethane	5.00	4.82		ug/L		96	70 - 130
Ethylbenzene	5.00	4.68		ug/L		94	70 - 130
Hexachlorobutadiene	5.00	4.62		ug/L		92	70 - 130
Isopropylbenzene	5.00	4.56		ug/L		91	70 - 130
m,p-Xylenes	10.0	8.99		ug/L		90	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.39		ug/L		88	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.73		ug/L		95	70 - 130
Naphthalene	5.00	4.44		ug/L		89	70 - 130
n-Butylbenzene	5.00	4.43		ug/L		89	70 - 130
N-Propylbenzene	5.00	4.39		ug/L		88	70 - 130
o-Chlorotoluene	5.00	4.50		ug/L		90	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.51		ug/L		90	70 - 130
o-Xylene	5.00	4.39		ug/L		88	70 - 130
p-Chlorotoluene	5.00	4.34		ug/L		87	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	4.41		ug/L		88	70 - 130
p-Isopropyltoluene	5.00	4.46		ug/L		89	70 - 130
sec-Butylbenzene	5.00	4.52		ug/L		90	70 - 130
Styrene	5.00	4.58		ug/L		92	70 - 130
Tert-amyl methyl ether	5.00	4.66		ug/L		93	70 - 130
1,3-Dichloropropene, Total	10.0	9.22		ug/L		92	70 - 130
Tert-butyl ethyl ether	5.00	4.76		ug/L		95	70 - 130
tert-Butylbenzene	5.00	4.29		ug/L		86	70 - 130
Tetrachloroethene (PCE)	5.00	4.83		ug/L		97	70 - 130
Toluene	5.00	4.56		ug/L		91	70 - 130
trans-1,2-Dichloroethylene	5.00	4.90		ug/L		98	70 - 130
trans-1,3-Dichloropropene	5.00	4.54		ug/L		91	70 - 130
Trichloroethylene (TCE)	5.00	4.67		ug/L		93	70 - 130
Bromoethane	5.00	4.69		ug/L		94	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.52		ug/L		90	70 - 130
Trichlorotrifluoroethane	5.00	4.86		ug/L		97	70 - 130
Diisopropyl ether	5.00	4.57		ug/L		91	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: LCS 380-85829/5
Matrix: Water
Analysis Batch: 85829

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl Chloride (VC)	5.00	4.91		ug/L		98	70 - 130
Xylenes, Total	15.0	13.4		ug/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: LCSD 380-85829/6
Matrix: Water
Analysis Batch: 85829

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	4.42		ug/L		88	70 - 130	0	20
1,1,1-Trichloroethane	5.00	4.36		ug/L		87	70 - 130	4	20
1,1,2,2-Tetrachloroethane	5.00	4.58		ug/L		92	70 - 130	2	20
1,1,2-Trichloroethane	5.00	4.96		ug/L		99	70 - 130	3	20
1,1-Dichloroethane	5.00	4.58		ug/L		92	70 - 130	3	20
1,1-Dichlorethylene	5.00	4.54		ug/L		91	70 - 130	6	20
1,1-Dichloropropene	5.00	4.50		ug/L		90	70 - 130	2	20
1,2,3-Trichlorobenzene	5.00	4.46		ug/L		89	70 - 130	1	20
1,2,3-Trichloropropane	5.00	4.38		ug/L		88	70 - 130	2	20
1,2,4-Trichlorobenzene	5.00	4.49		ug/L		90	70 - 130	1	20
1,2,4-Trimethylbenzene	5.00	4.34		ug/L		87	70 - 130	1	20
1,2-Dichloroethane	5.00	4.54		ug/L		91	70 - 130	5	20
1,2-Dichloropropane	5.00	4.53		ug/L		91	70 - 130	5	20
1,3,5-Trimethylbenzene	5.00	4.53		ug/L		91	70 - 130	0	20
1,3-Dichloropropane	5.00	4.54		ug/L		91	70 - 130	4	20
2,2-Dichloropropane	5.00	4.68		ug/L		94	70 - 130	5	20
2-Butanone (MEK)	50.0	43.2		ug/L		86	70 - 130	2	20
4-Methyl-2-pentanone (MIBK)	50.0	45.1		ug/L		90	70 - 130	3	20
Acetone	50.0	46.4	J	ug/L		93	70 - 130	4	20
Benzene	5.00	4.50		ug/L		90	70 - 130	4	20
Bromobenzene	5.00	4.35		ug/L		87	70 - 130	2	20
Bromochloromethane	5.00	5.48		ug/L		110	70 - 130	4	20
Bromodichloromethane	5.00	4.28		ug/L		86	70 - 130	3	20
Bromoform	5.00	4.25		ug/L		85	70 - 130	2	20
Bromomethane (Methyl Bromide)	5.00	4.66		ug/L		93	70 - 130	6	20
Carbon disulfide	5.00	4.57		ug/L		91	70 - 130	3	20
Carbon tetrachloride	5.00	4.34		ug/L		87	70 - 130	4	20
Chlorobenzene	5.00	4.47		ug/L		89	70 - 130	2	20
Chlorodibromomethane	5.00	4.41		ug/L		88	70 - 130	4	20
cis-1,3-Dichloropropene	5.00	4.50		ug/L		90	70 - 130	4	20
Dichloromethane	5.00	4.55		ug/L		91	70 - 130	6	20
Ethylbenzene	5.00	4.58		ug/L		92	70 - 130	2	20
Hexachlorobutadiene	5.00	4.45		ug/L		89	70 - 130	4	20
Isopropylbenzene	5.00	4.45		ug/L		89	70 - 130	2	20
m,p-Xylenes	10.0	8.90		ug/L		89	70 - 130	1	20

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: LCSD 380-85829/6
Matrix: Water
Analysis Batch: 85829

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Dichlorobenzene (1,3-DCB)	5.00	4.35		ug/L		87	70 - 130	1	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.60		ug/L		92	70 - 130	3	20
Naphthalene	5.00	4.45		ug/L		89	70 - 130	0	20
n-Butylbenzene	5.00	4.42		ug/L		88	70 - 130	0	20
N-Propylbenzene	5.00	4.39		ug/L		88	70 - 130	0	20
o-Chlorotoluene	5.00	4.44		ug/L		89	70 - 130	1	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.38		ug/L		88	70 - 130	3	20
o-Xylene	5.00	4.40		ug/L		88	70 - 130	0	20
p-Chlorotoluene	5.00	4.43		ug/L		89	70 - 130	2	20
p-Dichlorobenzene (1,4-DCB)	5.00	4.30		ug/L		86	70 - 130	3	20
p-Isopropyltoluene	5.00	4.44		ug/L		89	70 - 130	0	20
sec-Butylbenzene	5.00	4.42		ug/L		88	70 - 130	2	20
Styrene	5.00	4.39		ug/L		88	70 - 130	4	20
Tert-amyl methyl ether	5.00	4.58		ug/L		92	70 - 130	2	20
1,3-Dichloropropene, Total	10.0	8.95		ug/L		90	70 - 130	3	20
Tert-butyl ethyl ether	5.00	4.36		ug/L		87	70 - 130	9	20
tert-Butylbenzene	5.00	4.23		ug/L		85	70 - 130	1	20
Tetrachloroethene (PCE)	5.00	4.64		ug/L		93	70 - 130	4	20
Toluene	5.00	4.40		ug/L		88	70 - 130	4	20
trans-1,2-Dichloroethylene	5.00	4.80		ug/L		96	70 - 130	2	20
trans-1,3-Dichloropropene	5.00	4.45		ug/L		89	70 - 130	2	20
Trichloroethylene (TCE)	5.00	4.53		ug/L		91	70 - 130	3	20
Bromoethane	5.00	4.70		ug/L		94	70 - 130	0	20
Trichlorofluoromethane (Freon 11)	5.00	4.46		ug/L		89	70 - 130	1	20
Trichlorotrifluoroethane	5.00	4.66		ug/L		93	70 - 130	4	20
Diisopropyl ether	5.00	4.50		ug/L		90	70 - 130	1	20
Vinyl Chloride (VC)	5.00	4.56		ug/L		91	70 - 130	7	20
Xylenes, Total	15.0	13.3		ug/L		89	70 - 130	1	20

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

Lab Sample ID: MRL 380-85829/3
Matrix: Water
Analysis Batch: 85829

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	0.579		ug/L		116	50 - 150
Vinyl Chloride (VC)	0.250	0.159	J	ug/L		63	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Toluene-d8 (Surr)	97		70 - 130

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: MRL 380-85829/4
Matrix: Water
Analysis Batch: 85829

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	0.540		ug/L		108	50 - 150
1,1,1-Trichloroethane	0.500	0.529		ug/L		106	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.625		ug/L		125	50 - 150
1,1,2-Trichloroethane	0.500	0.505		ug/L		101	50 - 150
1,1-Dichloroethane	0.500	0.616		ug/L		123	50 - 150
1,1-Dichlorethylene	0.500	0.518		ug/L		104	50 - 150
1,1-Dichloropropene	0.500	0.538		ug/L		108	50 - 150
1,2,3-Trichlorobenzene	0.500	0.504		ug/L		101	50 - 150
1,2,3-Trichloropropane	0.500	0.575		ug/L		115	50 - 150
1,2,4-Trichlorobenzene	0.500	0.534		ug/L		107	50 - 150
1,2,4-Trimethylbenzene	0.500	0.535		ug/L		107	50 - 150
1,2-Dichloroethane	0.500	0.538		ug/L		108	50 - 150
1,2-Dichloropropane	0.500	0.608		ug/L		122	50 - 150
1,3,5-Trimethylbenzene	0.500	0.503		ug/L		101	50 - 150
1,3-Dichloropropane	0.500	0.583		ug/L		117	50 - 150
2,2-Dichloropropane	0.500	0.692		ug/L		138	50 - 150
2-Butanone (MEK)	5.00	6.23		ug/L		125	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	5.41		ug/L		108	50 - 150
Acetone	5.00	6.66	J	ug/L		133	50 - 150
Benzene	0.500	0.559		ug/L		112	50 - 150
Bromobenzene	0.500	0.568		ug/L		114	50 - 150
Bromochloromethane	0.500	0.516		ug/L		103	50 - 150
Bromodichloromethane	0.500	0.513		ug/L		103	50 - 150
Bromoform	0.500	0.482	J	ug/L		96	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.716		ug/L		143	50 - 150
Carbon disulfide	0.500	0.611		ug/L		122	50 - 150
Carbon tetrachloride	0.500	0.538		ug/L		108	50 - 150
Chlorobenzene	0.500	0.543		ug/L		109	50 - 150
Chlorodibromomethane	0.500	0.565		ug/L		113	50 - 150
cis-1,3-Dichloropropene	0.500	0.578		ug/L		116	50 - 150
Dichloromethane	0.500	0.538		ug/L		108	50 - 150
Ethylbenzene	0.500	0.553		ug/L		111	50 - 150
Hexachlorobutadiene	0.500	0.504		ug/L		101	50 - 150
Isopropylbenzene	0.500	0.531		ug/L		106	50 - 150
m,p-Xylenes	1.00	1.04		ug/L		104	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.555		ug/L		111	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.540		ug/L		108	50 - 150
Naphthalene	0.500	0.523		ug/L		105	50 - 150
n-Butylbenzene	0.500	0.508		ug/L		102	50 - 150
N-Propylbenzene	0.500	0.532		ug/L		106	50 - 150
o-Chlorotoluene	0.500	0.565		ug/L		113	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.566		ug/L		113	50 - 150
o-Xylene	0.500	0.521		ug/L		104	50 - 150
p-Chlorotoluene	0.500	0.516		ug/L		103	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.554		ug/L		111	50 - 150
p-Isopropyltoluene	0.500	0.520		ug/L		104	50 - 150
sec-Butylbenzene	0.500	0.512		ug/L		102	50 - 150
Styrene	0.500	0.523		ug/L		105	50 - 150

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: MRL 380-85829/4
Matrix: Water
Analysis Batch: 85829

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	0.559	J	ug/L		112	50 - 150
1,3-Dichloropropene, Total	1.00	1.15		ug/L		115	50 - 150
Tert-butyl ethyl ether	0.500	0.579	J	ug/L		116	50 - 150
tert-Butylbenzene	0.500	0.531		ug/L		106	50 - 150
Tetrachloroethene (PCE)	0.500	0.567		ug/L		113	50 - 150
Toluene	0.500	0.576		ug/L		115	50 - 150
trans-1,2-Dichloroethylene	0.500	0.574		ug/L		115	50 - 150
trans-1,3-Dichloropropene	0.500	0.569		ug/L		114	50 - 150
Trichloroethylene (TCE)	0.500	0.484	J	ug/L		97	50 - 150
Bromoethane	0.500	0.569		ug/L		114	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.477	J	ug/L		95	50 - 150
Trichlorotrifluoroethane	0.500	0.580		ug/L		116	50 - 150
Diisopropyl ether	0.500	0.564	J	ug/L		113	50 - 150
Vinyl Chloride (VC)	0.500	0.411		ug/L		82	50 - 150
Xylenes, Total	1.50	1.56		ug/L		104	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	98		70 - 130

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

Lab Sample ID: MB 380-85520/22
Matrix: Water
Analysis Batch: 85520

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			04/11/24 16:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		04/11/24 16:43	1
4-Bromofluorobenzene (Surr)	100		70 - 130		04/11/24 16:43	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 130		04/11/24 16:43	1

Lab Sample ID: LCS 380-85520/19
Matrix: Water
Analysis Batch: 85520

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	5.40		ug/L		108	70 - 130

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

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: LCSD 380-85520/20
Matrix: Water
Analysis Batch: 85520

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	5.40		ug/L		108	70 - 130	0	20
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	100		70 - 130						
4-Bromofluorobenzene (Surr)	99		70 - 130						
1,2-Dichloroethane-d4 (Surr)	101		70 - 130						

Lab Sample ID: MRL 380-85520/21
Matrix: Water
Analysis Batch: 85520

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Tertiary Butyl Alcohol (TBA)	2.00	2.37		ug/L		119	50 - 150		
MRL MRL									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	100		50 - 150						
4-Bromofluorobenzene (Surr)	98		50 - 150						
1,2-Dichloroethane-d4 (Surr)	101		50 - 150						

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

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

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,4'-DDE	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,4'-DDT	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
4,4'-DDD	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
4,4'-DDE	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
4,4'-DDT	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Acenaphthene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Acenaphthylene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Acetochlor	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Alachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
alpha-BHC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
alpha-Chlordane	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Anthracene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
Atrazine	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[a]pyrene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
beta-BHC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1

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QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		04/11/24 07:02	04/11/24 16:20	1
Bromacil	<0.098	^+	0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Butachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chlorobenzilate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chloroneb	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chlorpyrifos	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Chrysene	<0.020		0.020	ug/L		04/11/24 07:02	04/11/24 16:20	1
delta-BHC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		04/11/24 07:02	04/11/24 16:20	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Dieldrin	<0.20		0.20	ug/L		04/11/24 07:02	04/11/24 16:20	1
Diethylphthalate	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Dimethylphthalate	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		04/11/24 07:02	04/11/24 16:20	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endosulfan sulfate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endrin	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Endrin aldehyde	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
EPTC	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Fluoranthene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Fluorene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 16:20	1
gamma-Chlordane	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Heptachlor	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 16:20	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Isophorone	<0.49		0.49	ug/L		04/11/24 07:02	04/11/24 16:20	1
Malathion	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Methoxychlor	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Metolachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Molinate	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Naphthalene	<0.29		0.29	ug/L		04/11/24 07:02	04/11/24 16:20	1
Parathion	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Phenanthrene	<0.039		0.039	ug/L		04/11/24 07:02	04/11/24 16:20	1
Propachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Pyrene	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Simazine	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Terbacil	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Terbutylazine	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
Thiobencarb	<0.20		0.20	ug/L		04/11/24 07:02	04/11/24 16:20	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		04/11/24 07:02	04/11/24 16:20	1

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QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Nonachlor	<0.049		0.049	ug/L		04/11/24 07:02	04/11/24 16:20	1
Trifluralin	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
1-Methylnaphthalene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1
2-Methylnaphthalene	<0.098		0.098	ug/L		04/11/24 07:02	04/11/24 16:20	1

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

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

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

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.95	2.05		ug/L		105	70 - 130
2,4'-DDE	1.95	2.23		ug/L		114	70 - 130
2,4'-DDT	1.95	2.34		ug/L		120	70 - 130
2,4-Dinitrotoluene	1.95	2.44		ug/L		125	70 - 130
2,6-Dinitrotoluene	1.95	2.33		ug/L		120	70 - 130
4,4'-DDD	1.95	2.08		ug/L		106	70 - 130
4,4'-DDE	1.95	2.01		ug/L		103	70 - 130
4,4'-DDT	1.95	2.41		ug/L		123	70 - 130
Acenaphthene	1.95	1.78		ug/L		91	70 - 130
Acenaphthylene	1.95	1.89		ug/L		97	70 - 130
Acetochlor	1.95	1.92		ug/L		98	70 - 130
Alachlor	1.95	2.12		ug/L		109	70 - 130
alpha-BHC	1.95	2.03		ug/L		104	70 - 130
alpha-Chlordane	1.95	1.78		ug/L		91	70 - 130
Anthracene	1.95	1.56		ug/L		80	70 - 130
Atrazine	1.95	2.13		ug/L		109	70 - 130
Benz(a)anthracene	1.95	2.03		ug/L		104	70 - 130
Benzo[a]pyrene	1.95	1.89		ug/L		97	70 - 130
Benzo[b]fluoranthene	1.95	2.08		ug/L		107	70 - 130
Benzo[g,h,i]perylene	1.95	2.13		ug/L		109	70 - 130
Benzo[k]fluoranthene	1.95	2.21		ug/L		113	70 - 130
beta-BHC	1.95	2.12		ug/L		109	70 - 130
Bis(2-ethylhexyl) phthalate	1.95	1.72		ug/L		88	70 - 130
Bromacil	1.95	3.01	*+ ^+	ug/L		154	70 - 130
Butachlor	1.95	2.08		ug/L		107	70 - 130
Butylbenzylphthalate	1.95	2.20		ug/L		113	70 - 130
Chlorobenzilate	1.95	2.24		ug/L		115	70 - 130
Chloroneb	1.95	2.07		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	1.95	2.05		ug/L		105	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlorpyrifos	1.95	2.34		ug/L		120	70 - 130
Chrysene	1.95	2.11		ug/L		108	70 - 130
delta-BHC	1.95	2.04		ug/L		105	70 - 130
Di(2-ethylhexyl)adipate	1.95	2.14		ug/L		110	70 - 130
Dibenz(a,h)anthracene	1.95	2.11		ug/L		108	70 - 130
Diclorvos (DDVP)	1.95	2.21		ug/L		113	70 - 130
Dieldrin	1.95	2.13		ug/L		109	70 - 130
Diethylphthalate	1.95	1.92		ug/L		98	70 - 130
Dimethylphthalate	1.95	1.95		ug/L		100	70 - 130
Di-n-butyl phthalate	3.91	4.53		ug/L		116	70 - 130
Di-n-octyl phthalate	1.95	1.82		ug/L		93	70 - 130
Endosulfan I (Alpha)	1.95	2.12		ug/L		108	70 - 130
Endosulfan II (Beta)	1.95	2.18		ug/L		112	70 - 130
Endosulfan sulfate	1.95	2.27		ug/L		116	70 - 130
Endrin	1.95	2.36		ug/L		121	70 - 130
Endrin aldehyde	1.95	1.86		ug/L		95	60 - 130
EPTC	1.95	2.22		ug/L		113	70 - 130
Fluoranthene	1.95	2.26		ug/L		116	70 - 130
Fluorene	1.95	1.96		ug/L		100	70 - 130
gamma-BHC (Lindane)	1.95	2.09		ug/L		107	70 - 130
gamma-Chlordane	1.95	1.85		ug/L		95	70 - 130
Heptachlor	1.95	2.20		ug/L		113	70 - 130
Heptachlor epoxide (isomer B)	1.95	1.91		ug/L		98	70 - 130
Hexachlorobenzene	1.95	2.01		ug/L		103	70 - 130
Hexachlorocyclopentadiene	1.95	2.07		ug/L		106	70 - 130
Indeno[1,2,3-cd]pyrene	1.95	2.10		ug/L		108	70 - 130
Isophorone	1.95	1.82		ug/L		93	70 - 130
Malathion	1.95	2.10		ug/L		108	70 - 130
Methoxychlor	1.95	2.35		ug/L		120	70 - 130
Metolachlor	1.95	2.16		ug/L		110	70 - 130
Molinate	1.95	2.18		ug/L		112	70 - 130
Naphthalene	1.95	1.98		ug/L		101	70 - 130
Parathion	1.95	2.58	*+	ug/L		132	70 - 130
Pendimethalin (Penoxaline)	1.95	2.47		ug/L		127	70 - 130
Phenanthrene	1.95	1.88		ug/L		96	70 - 130
Propachlor	1.95	2.11		ug/L		108	70 - 130
Pyrene	1.95	2.27		ug/L		116	70 - 130
Simazine	1.95	2.18		ug/L		112	70 - 130
Terbacil	1.95	2.20		ug/L		113	70 - 130
Terbutylazine	1.95	2.08		ug/L		107	70 - 130
Thiobencarb	1.95	1.99		ug/L		102	70 - 130
trans-Nonachlor	1.95	2.05		ug/L		105	70 - 130
Trifluralin	1.95	2.13		ug/L		109	70 - 130
1-Methylnaphthalene	1.95	2.03		ug/L		104	70 - 130
2-Methylnaphthalene	1.95	2.08		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	100		70 - 130

QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Perylene-d12	99		70 - 130
Triphenylphosphate	113		70 - 130

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

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	Limit
2,4'-DDD	1.96	2.12		ug/L		108	70 - 130	3		20
2,4'-DDE	1.96	2.23		ug/L		114	70 - 130	0		20
2,4'-DDT	1.96	2.28		ug/L		117	70 - 130	3		20
2,4-Dinitrotoluene	1.96	2.47		ug/L		126	70 - 130	1		20
2,6-Dinitrotoluene	1.96	2.40		ug/L		123	70 - 130	3		20
4,4'-DDD	1.96	2.11		ug/L		108	70 - 130	2		20
4,4'-DDE	1.96	1.94		ug/L		99	70 - 130	3		20
4,4'-DDT	1.96	2.34		ug/L		120	70 - 130	3		20
Acenaphthene	1.96	1.81		ug/L		93	70 - 130	2		20
Acenaphthylene	1.96	1.90		ug/L		97	70 - 130	1		20
Acetochlor	1.96	2.01		ug/L		103	70 - 130	5		20
Alachlor	1.96	2.16		ug/L		110	70 - 130	2		20
alpha-BHC	1.96	2.16		ug/L		111	70 - 130	7		20
alpha-Chlordane	1.96	1.88		ug/L		96	70 - 130	6		20
Anthracene	1.96	1.55		ug/L		80	70 - 130	0		20
Atrazine	1.96	2.15		ug/L		110	70 - 130	1		20
Benz(a)anthracene	1.96	2.03		ug/L		104	70 - 130	0		20
Benzo[a]pyrene	1.96	1.85		ug/L		95	70 - 130	2		20
Benzo[b]fluoranthene	1.96	2.05		ug/L		105	70 - 130	2		20
Benzo[g,h,i]perylene	1.96	2.10		ug/L		107	70 - 130	1		20
Benzo[k]fluoranthene	1.96	2.18		ug/L		111	70 - 130	1		20
beta-BHC	1.96	2.19		ug/L		112	70 - 130	3		20
Bis(2-ethylhexyl) phthalate	1.96	1.65		ug/L		84	70 - 130	4		20
Bromacil	1.96	3.17	*+ ^+	ug/L		162	70 - 130	5		20
Butachlor	1.96	2.20		ug/L		113	70 - 130	6		20
Butylbenzylphthalate	1.96	2.31		ug/L		118	70 - 130	5		20
Chlorobenzilate	1.96	2.31		ug/L		118	70 - 130	3		20
Chloroneb	1.96	2.12		ug/L		108	70 - 130	3		20
Chlorothalonil (Draconil, Bravo)	1.96	2.16		ug/L		111	70 - 130	5		20
Chlorpyrifos	1.96	2.45		ug/L		125	70 - 130	5		20
Chrysene	1.96	2.13		ug/L		109	70 - 130	1		20
delta-BHC	1.96	2.13		ug/L		109	70 - 130	4		20
Di(2-ethylhexyl)adipate	1.96	2.03		ug/L		104	70 - 130	5		20
Dibenz(a,h)anthracene	1.96	2.03		ug/L		104	70 - 130	4		20
Diclorvos (DDVP)	1.96	2.28		ug/L		117	70 - 130	3		20
Dieldrin	1.96	2.24		ug/L		115	70 - 130	5		20
Diethylphthalate	1.96	1.98		ug/L		101	70 - 130	3		20
Dimethylphthalate	1.96	2.02		ug/L		103	70 - 130	4		20
Di-n-butyl phthalate	3.91	4.78		ug/L		122	70 - 130	5		20
Di-n-octyl phthalate	1.96	1.73		ug/L		88	70 - 130	5		20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

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

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

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

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	99		70 - 130
Perylene-d12	99		70 - 130
Triphenylphosphate	115		70 - 130

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

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
2,4'-DDD	0.0974	0.118		ug/L		121	50 - 150	
2,4'-DDE	0.0974	0.110		ug/L		113	50 - 150	
2,4'-DDT	0.0974	0.130		ug/L		133	50 - 150	

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QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrotoluene	0.0974	0.112		ug/L		115	50 - 150
2,6-Dinitrotoluene	0.0974	0.115		ug/L		118	50 - 150
4,4'-DDD	0.0974	0.112		ug/L		115	50 - 150
4,4'-DDE	0.0974	0.0854	J	ug/L		88	50 - 150
4,4'-DDT	0.0974	0.156	^3+	ug/L		160	50 - 150
Acenaphthene	0.0974	0.0965	J	ug/L		99	50 - 150
Acenaphthylene	0.0974	0.100		ug/L		103	50 - 150
Acetochlor	0.0487	0.0505	J	ug/L		104	50 - 150
Alachlor	0.0487	0.0414	J	ug/L		85	50 - 150
alpha-BHC	0.0974	0.106		ug/L		109	50 - 150
alpha-Chlordane	0.0243	<0.028		ug/L		96	50 - 150
Anthracene	0.0195	<0.019		ug/L		97	50 - 150
Atrazine	0.0487	0.0502		ug/L		103	50 - 150
Benz(a)anthracene	0.0487	0.0617		ug/L		127	50 - 150
Benzo[a]pyrene	0.0195	0.0181	J	ug/L		93	50 - 150
Benzo[b]fluoranthene	0.0195	0.0206		ug/L		106	50 - 150
Benzo[g,h,i]perylene	0.0487	0.0458	J	ug/L		94	50 - 150
Benzo[k]fluoranthene	0.0195	0.0204		ug/L		105	50 - 150
beta-BHC	0.0974	0.108		ug/L		111	50 - 150
Bis(2-ethylhexyl) phthalate	0.584	0.638		ug/L		109	50 - 150
Bromacil	0.0974	0.114	^+	ug/L		117	50 - 150
Butachlor	0.0487	0.0541		ug/L		111	50 - 150
Butylbenzylphthalate	0.146	0.175	J	ug/L		120	50 - 150
Chlorobenzilate	0.0974	0.119		ug/L		122	50 - 150
Chloroneb	0.0974	0.101		ug/L		104	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0974	0.112		ug/L		115	50 - 150
Chlorpyrifos	0.0487	0.0465	J	ug/L		96	50 - 150
Chrysene	0.0195	0.0294	^3+	ug/L		151	50 - 150
delta-BHC	0.0974	0.113		ug/L		116	50 - 150
Di(2-ethylhexyl)adipate	0.292	0.372	J	ug/L		127	50 - 150
Dibenz(a,h)anthracene	0.0487	0.0442	J	ug/L		91	50 - 150
Diclorvos (DDVP)	0.0487	0.0726		ug/L		149	50 - 150
Dieldrin	0.0974	0.0980	J	ug/L		101	50 - 150
Diethylphthalate	0.146	0.169	J	ug/L		116	50 - 150
Dimethylphthalate	0.292	0.303	J	ug/L		104	50 - 150
Di-n-butyl phthalate	0.292	0.364	J	ug/L		125	49 - 243
Di-n-octyl phthalate	0.0974	0.0826	J	ug/L		85	50 - 150
Endosulfan I (Alpha)	0.0974	0.0907	J	ug/L		93	50 - 150
Endosulfan II (Beta)	0.0974	0.121		ug/L		125	50 - 150
Endosulfan sulfate	0.0974	0.106		ug/L		109	50 - 150
Endrin	0.0974	0.120		ug/L		123	50 - 150
Endrin aldehyde	0.0974	0.119		ug/L		122	50 - 150
EPTC	0.0974	0.106		ug/L		109	50 - 150
Fluoranthene	0.0487	0.0453	J	ug/L		93	50 - 150
Fluorene	0.0487	0.0497		ug/L		102	50 - 150
gamma-BHC (Lindane)	0.0389	0.0444		ug/L		114	50 - 150
gamma-Chlordane	0.0243	0.0224	J	ug/L		92	50 - 150
Heptachlor	0.0389	0.0504		ug/L		129	50 - 150
Heptachlor epoxide (isomer B)	0.0487	0.0617		ug/L		127	50 - 150

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QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	0.0487	0.0468	J	ug/L		96	50 - 150
Hexachlorocyclopentadiene	0.0487	0.0649		ug/L		133	50 - 150
Indeno[1,2,3-cd]pyrene	0.0487	0.0448	J	ug/L		92	50 - 150
Isophorone	0.0974	0.110	J	ug/L		113	50 - 150
Malathion	0.0974	0.110		ug/L		113	50 - 150
Methoxychlor	0.0974	0.140		ug/L		143	50 - 150
Metolachlor	0.0487	0.0603		ug/L		124	50 - 150
Molinate	0.0974	0.108		ug/L		111	50 - 150
Naphthalene	0.0974	0.118	J	ug/L		121	50 - 150
Parathion	0.0974	0.120		ug/L		123	50 - 150
Pendimethalin (Penoxaline)	0.0974	0.138		ug/L		141	50 - 150
Phenanthrene	0.0195	0.0200	J	ug/L		103	50 - 150
Propachlor	0.0487	0.0515		ug/L		106	50 - 150
Pyrene	0.0487	0.0431	J	ug/L		89	50 - 150
Simazine	0.0487	0.0554		ug/L		114	50 - 150
Terbacil	0.0974	0.144		ug/L		148	50 - 150
Terbutylazine	0.0974	0.103		ug/L		105	50 - 150
Thiobencarb	0.0974	0.121	J	ug/L		125	50 - 150
trans-Nonachlor	0.0243	<0.025		ug/L		92	50 - 150
Trifluralin	0.0974	0.113		ug/L		116	50 - 150
1-Methylnaphthalene	0.0974	0.122		ug/L		125	50 - 150
2-Methylnaphthalene	0.0974	0.120		ug/L		123	50 - 150

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

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

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 85242

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	<0.098		1.94	2.22		ug/L		114	70 - 130
2,4'-DDE	<0.098		1.94	2.32		ug/L		120	70 - 130
2,4'-DDT	<0.098		1.94	2.40		ug/L		123	70 - 130
2,4-Dinitrotoluene	<0.098		1.94	2.44		ug/L		126	70 - 130
2,6-Dinitrotoluene	<0.098		1.94	2.42		ug/L		125	70 - 130
4,4'-DDD	<0.098		1.94	2.15		ug/L		111	70 - 130
4,4'-DDE	<0.098		1.94	2.04		ug/L		105	70 - 130
4,4'-DDT	<0.098	^3+	1.94	2.45		ug/L		126	70 - 130
Acenaphthene	<0.098		1.94	1.83		ug/L		94	70 - 130
Acenaphthylene	<0.098		1.94	1.89		ug/L		97	70 - 130
Acetochlor	<0.098		1.94	2.03		ug/L		104	70 - 130
Alachlor	<0.049		1.94	2.18		ug/L		112	70 - 130
alpha-BHC	<0.098		1.94	2.13		ug/L		110	70 - 130
alpha-Chlordane	<0.049		1.94	1.89		ug/L		97	70 - 130
Anthracene	<0.020	F1	1.94	0.963	F1	ug/L		50	70 - 130

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: 380-90531-1 MS

Matrix: Water

Analysis Batch: 85490

Client Sample ID: AIEA GULCH WELLS PUMP 2

Prep Type: Total/NA

Prep Batch: 85242

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Atrazine	<0.049		1.94	2.15		ug/L		110	70 - 130
Benz(a)anthracene	<0.049		1.94	1.92		ug/L		99	70 - 130
Benzo[a]pyrene	<0.020		1.94	1.63		ug/L		84	70 - 130
Benzo[b]fluoranthene	<0.020		1.94	2.14		ug/L		110	70 - 130
Benzo[g,h,i]perylene	<0.049		1.94	2.23		ug/L		115	70 - 130
Benzo[k]fluoranthene	<0.020		1.94	2.24		ug/L		115	70 - 130
beta-BHC	<0.098		1.94	2.16		ug/L		111	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.94	1.69		ug/L		87	70 - 130
Bromacil	<0.098	*+ F1 ^+	1.94	3.14	F1 ^+	ug/L		162	70 - 130
Butachlor	<0.049		1.94	2.17		ug/L		111	70 - 130
Butylbenzylphthalate	<0.49		1.94	2.28		ug/L		117	70 - 130
Chlorobenzilate	<0.098		1.94	2.30		ug/L		118	70 - 130
Chloroneb	<0.098		1.94	2.11		ug/L		108	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.098		1.94	2.12		ug/L		109	70 - 130
Chlorpyrifos	<0.049		1.94	2.42		ug/L		125	70 - 130
Chrysene	<0.020	^3+	1.94	2.19		ug/L		112	70 - 130
delta-BHC	<0.098		1.94	2.12		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.94	2.18		ug/L		112	70 - 130
Dibenz(a,h)anthracene	<0.049		1.94	2.18		ug/L		112	70 - 130
Diclorvos (DDVP)	<0.049		1.94	2.27		ug/L		117	70 - 130
Dieldrin	<0.20		1.94	2.24		ug/L		115	70 - 130
Diethylphthalate	<0.49		1.94	1.99		ug/L		102	70 - 130
Dimethylphthalate	<0.49		1.94	2.03		ug/L		104	70 - 130
Di-n-butyl phthalate	<0.98		3.89	4.77		ug/L		123	70 - 130
Di-n-octyl phthalate	<0.098		1.94	1.65		ug/L		85	70 - 130
Endosulfan I (Alpha)	<0.098		1.94	2.17		ug/L		112	70 - 130
Endosulfan II (Beta)	<0.098		1.94	2.34		ug/L		120	70 - 130
Endosulfan sulfate	<0.098		1.94	2.37		ug/L		122	70 - 130
Endrin	<0.098		1.94	2.45		ug/L		126	70 - 130
Endrin aldehyde	<0.098		1.94	1.88		ug/L		97	60 - 130
EPTC	<0.098		1.94	2.30		ug/L		118	70 - 130
Fluoranthene	<0.098		1.94	2.30		ug/L		119	70 - 130
Fluorene	<0.049		1.94	1.99		ug/L		102	70 - 130
gamma-BHC (Lindane)	<0.039		1.94	2.19		ug/L		113	70 - 130
gamma-Chlordane	<0.049		1.94	1.98		ug/L		102	70 - 130
Heptachlor	<0.039		1.94	2.32		ug/L		119	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.94	2.01		ug/L		104	70 - 130
Hexachlorobenzene	<0.049		1.94	2.10		ug/L		108	70 - 130
Hexachlorocyclopentadiene	<0.049		1.94	2.15		ug/L		111	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.94	2.20		ug/L		113	70 - 130
Isophorone	<0.49		1.94	1.88		ug/L		97	70 - 130
Malathion	<0.098		1.94	2.21		ug/L		114	70 - 130
Methoxychlor	<0.098		1.94	2.43		ug/L		125	70 - 130
Metolachlor	<0.049		1.94	2.27		ug/L		117	70 - 130
Molinate	<0.098		1.94	2.27		ug/L		117	70 - 130
Naphthalene	<0.29		1.94	2.01		ug/L		103	70 - 130
Parathion	<0.098	*+ F1	1.94	2.63	F1	ug/L		135	70 - 130
Pendimethalin (Penoxaline)	<0.098	*+ F1	1.94	2.58	F1	ug/L		133	70 - 130
Phenanthrene	<0.039		1.94	1.95		ug/L		100	70 - 130

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QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: 380-90531-1 MS

Matrix: Water

Analysis Batch: 85490

Client Sample ID: AIEA GULCH WELLS PUMP 2

Prep Type: Total/NA

Prep Batch: 85242

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Propachlor	<0.049		1.94	2.20		ug/L		113	70 - 130	
Pyrene	<0.049		1.94	2.28		ug/L		117	70 - 130	
Simazine	<0.049		1.94	2.20		ug/L		113	70 - 130	
Terbacil	<0.098		1.94	2.18		ug/L		112	70 - 130	
Terbutylazine	<0.098		1.94	2.18		ug/L		112	70 - 130	
Thiobencarb	<0.20		1.94	2.03		ug/L		104	70 - 130	
trans-Nonachlor	<0.049		1.94	2.18		ug/L		112	70 - 130	
Trifluralin	<0.098		1.94	2.24		ug/L		115	70 - 130	
1-Methylnaphthalene	<0.098		1.94	2.08		ug/L		107	70 - 130	
2-Methylnaphthalene	<0.098		1.94	2.15		ug/L		111	70 - 130	
		MS MS								
Surrogate	%Recovery	Qualifier	Limits							
2-Nitro-m-xylene	101		70 - 130							
Perylene-d12	99		70 - 130							
Triphenylphosphate	114		70 - 130							

Lab Sample ID: 380-90531-1 MSD

Matrix: Water

Analysis Batch: 85490

Client Sample ID: AIEA GULCH WELLS PUMP 2

Prep Type: Total/NA

Prep Batch: 85242

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
2,4'-DDD	<0.098		1.96	2.09		ug/L		107	70 - 130	6	20
2,4'-DDE	<0.098		1.96	2.27		ug/L		116	70 - 130	2	20
2,4'-DDT	<0.098		1.96	2.33		ug/L		119	70 - 130	3	20
2,4-Dinitrotoluene	<0.098		1.96	2.47		ug/L		127	70 - 130	1	20
2,6-Dinitrotoluene	<0.098		1.96	2.41		ug/L		124	70 - 130	0	20
4,4'-DDD	<0.098		1.96	2.08		ug/L		106	70 - 130	4	20
4,4'-DDE	<0.098		1.96	2.03		ug/L		104	70 - 130	0	20
4,4'-DDT	<0.098	^3+	1.96	2.40		ug/L		123	70 - 130	2	20
Acenaphthene	<0.098		1.96	1.85		ug/L		94	70 - 130	1	20
Acenaphthylene	<0.098		1.96	1.90		ug/L		97	70 - 130	0	20
Acetochlor	<0.098		1.96	1.98		ug/L		101	70 - 130	2	20
Alachlor	<0.049		1.96	2.12		ug/L		108	70 - 130	3	20
alpha-BHC	<0.098		1.96	2.13		ug/L		109	70 - 130	0	20
alpha-Chlordane	<0.049		1.96	1.86		ug/L		95	70 - 130	2	20
Anthracene	<0.020	F1	1.96	0.948	F1	ug/L		49	70 - 130	2	20
Atrazine	<0.049		1.96	2.13		ug/L		109	70 - 130	1	20
Benz(a)anthracene	<0.049		1.96	1.85		ug/L		94	70 - 130	4	20
Benzo[a]pyrene	<0.020		1.96	1.57		ug/L		80	70 - 130	4	20
Benzo[b]fluoranthene	<0.020		1.96	2.05		ug/L		105	70 - 130	4	20
Benzo[g,h,i]perylene	<0.049		1.96	2.08		ug/L		106	70 - 130	7	20
Benzo[k]fluoranthene	<0.020		1.96	2.24		ug/L		115	70 - 130	0	20
beta-BHC	<0.098		1.96	2.18		ug/L		111	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	<0.59		1.96	1.68		ug/L		86	70 - 130	1	20
Bromacil	<0.098	*+ F1 ^+	1.96	3.07	F1 ^+	ug/L		157	70 - 130	2	20
Butachlor	<0.049		1.96	2.13		ug/L		109	70 - 130	2	20
Butylbenzylphthalate	<0.49		1.96	2.20		ug/L		113	70 - 130	4	20
Chlorobenzilate	<0.098		1.96	2.25		ug/L		115	70 - 130	2	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: 380-90531-1 MSD

Client Sample ID: AIEA GULCH WELLS PUMP 2

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 85490

Prep Batch: 85242

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloroneb	<0.098		1.96	2.11		ug/L		108	70 - 130	0	20
Chlorothalonil (Draconil, Bravo)	<0.098		1.96	2.07		ug/L		106	70 - 130	2	20
Chlorpyrifos	<0.049		1.96	2.40		ug/L		123	70 - 130	1	20
Chrysene	<0.020	^3+	1.96	2.17		ug/L		111	70 - 130	1	20
delta-BHC	<0.098		1.96	2.07		ug/L		106	70 - 130	2	20
Di(2-ethylhexyl)adipate	<0.59		1.96	2.06		ug/L		105	70 - 130	6	20
Dibenz(a,h)anthracene	<0.049		1.96	2.08		ug/L		106	70 - 130	4	20
Diclorvos (DDVP)	<0.049		1.96	2.20		ug/L		113	70 - 130	3	20
Dieldrin	<0.20		1.96	2.22		ug/L		113	70 - 130	1	20
Diethylphthalate	<0.49		1.96	1.97		ug/L		101	70 - 130	1	20
Dimethylphthalate	<0.49		1.96	1.99		ug/L		102	70 - 130	2	20
Di-n-butyl phthalate	<0.98		3.91	4.65		ug/L		119	70 - 130	3	20
Di-n-octyl phthalate	<0.098		1.96	1.67		ug/L		85	70 - 130	1	20
Endosulfan I (Alpha)	<0.098		1.96	2.14		ug/L		110	70 - 130	1	20
Endosulfan II (Beta)	<0.098		1.96	2.30		ug/L		118	70 - 130	2	20
Endosulfan sulfate	<0.098		1.96	2.33		ug/L		119	70 - 130	2	20
Endrin	<0.098		1.96	2.44		ug/L		125	70 - 130	1	20
Endrin aldehyde	<0.098		1.96	1.84		ug/L		94	60 - 130	2	20
EPTC	<0.098		1.96	2.23		ug/L		114	70 - 130	3	20
Fluoranthene	<0.098		1.96	2.27		ug/L		116	70 - 130	1	20
Fluorene	<0.049		1.96	2.02		ug/L		103	70 - 130	1	20
gamma-BHC (Lindane)	<0.039		1.96	2.15		ug/L		110	70 - 130	2	20
gamma-Chlordane	<0.049		1.96	1.91		ug/L		98	70 - 130	4	20
Heptachlor	<0.039		1.96	2.25		ug/L		115	70 - 130	3	20
Heptachlor epoxide (isomer B)	<0.049		1.96	1.96		ug/L		100	70 - 130	3	20
Hexachlorobenzene	<0.049		1.96	2.08		ug/L		106	70 - 130	1	20
Hexachlorocyclopentadiene	<0.049		1.96	2.15		ug/L		110	70 - 130	0	20
Indeno[1,2,3-cd]pyrene	<0.049		1.96	2.09		ug/L		107	70 - 130	5	20
Isophorone	<0.49		1.96	1.85		ug/L		94	70 - 130	2	20
Malathion	<0.098		1.96	2.16		ug/L		110	70 - 130	3	20
Methoxychlor	<0.098		1.96	2.46		ug/L		126	70 - 130	1	20
Metolachlor	<0.049		1.96	2.23		ug/L		114	70 - 130	2	20
Molinate	<0.098		1.96	2.27		ug/L		116	70 - 130	0	20
Naphthalene	<0.29		1.96	2.01		ug/L		103	70 - 130	0	20
Parathion	<0.098	*+ F1	1.96	2.58	F1	ug/L		132	70 - 130	2	20
Pendimethalin (Penoxaline)	<0.098	*+ F1	1.96	2.54		ug/L		130	70 - 130	1	20
Phenanthrene	<0.039		1.96	1.94		ug/L		99	70 - 130	1	20
Propachlor	<0.049		1.96	2.17		ug/L		111	70 - 130	1	20
Pyrene	<0.049		1.96	2.24		ug/L		115	70 - 130	2	20
Simazine	<0.049		1.96	2.23		ug/L		114	70 - 130	1	20
Terbacil	<0.098		1.96	2.21		ug/L		113	70 - 130	1	20
Terbutylazine	<0.098		1.96	2.15		ug/L		110	70 - 130	2	20
Thiobencarb	<0.20		1.96	2.00		ug/L		103	70 - 130	1	20
trans-Nonachlor	<0.049		1.96	2.13		ug/L		109	70 - 130	2	20
Trifluralin	<0.098		1.96	2.24		ug/L		114	70 - 130	0	20
1-Methylnaphthalene	<0.098		1.96	2.08		ug/L		106	70 - 130	0	20
2-Methylnaphthalene	<0.098		1.96	2.15		ug/L		110	70 - 130	0	20

QC Sample Results

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

Job ID: 380-90531-1

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

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

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 85242

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	101		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	111		70 - 130

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

Lab Sample ID: MBL 380-85451/4-A
Matrix: Water
Analysis Batch: 85666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 85451

Analyte	MBL MBL		RL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier								
1,2,3-Trichloropropane	<0.0040		0.020	ug/L		04/11/24 16:00	04/11/24 20:12			1
1,2-Dibromo-3-Chloropropane	<0.0020		0.010	ug/L		04/11/24 16:00	04/11/24 20:12			1
1,2-Dibromoethane	<0.0040		0.010	ug/L		04/11/24 16:00	04/11/24 20:12			1

Surrogate	MBL MBL		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
1,2-Dibromopropane (Surr)	102		60 - 140	04/11/24 16:00	04/11/24 20:12			1

Lab Sample ID: LCS 380-85451/29-A
Matrix: Water
Analysis Batch: 85666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85451

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
1,2,3-Trichloropropane	0.200	0.220		ug/L		110	70 - 130	
1,2-Dibromo-3-Chloropropane	0.200	0.201		ug/L		101	70 - 130	
1,2-Dibromoethane	0.200	0.209		ug/L		105	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dibromopropane (Surr)	106		60 - 140

Lab Sample ID: MRL 380-85451/2-A
Matrix: Water
Analysis Batch: 85666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85451

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
1,2,3-Trichloropropane	0.0200	0.0207		ug/L		104	60 - 140	

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

Lab Sample ID: MRL 380-85451/3-A
Matrix: Water
Analysis Batch: 85666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85451

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
1,2,3-Trichloropropane	0.0500	0.0489		ug/L		98	60 - 140	
1,2-Dibromo-3-Chloropropane	0.0100	0.0102		ug/L		102	60 - 140	
1,2-Dibromoethane	0.0100	0.00849	J	ug/L		85	60 - 140	

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QC Sample Results

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

Job ID: 380-90531-1

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	102		60 - 140

Lab Sample ID: 380-90796-BQ-1-B MS
Matrix: Water
Analysis Batch: 85666

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 85451

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	<0.020		1.28	1.28		ug/L		100	65 - 135
1,2-Dibromo-3-Chloropropane	<0.010		0.255	0.257		ug/L		101	65 - 135
1,2-Dibromoethane	<0.010		0.255	0.256		ug/L		100	65 - 135

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

Lab Sample ID: 380-90796-BQ-1-C DU
Matrix: Water
Analysis Batch: 85666

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 85451

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU DU Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	99		60 - 140

Lab Sample ID: MBL 380-85697/4-A
Matrix: Water
Analysis Batch: 85944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 85697

<i>Analyte</i>	<i>MBL Result</i>	<i>MBL Qualifier</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2,3-Trichloropropane	<0.0040		0.020	ug/L		04/13/24 14:00	04/13/24 22:45	1
1,2-Dibromo-3-Chloropropane	<0.0020		0.010	ug/L		04/13/24 14:00	04/13/24 22:45	1
1,2-Dibromoethane	<0.0040		0.010	ug/L		04/13/24 14:00	04/13/24 22:45	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MBL MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dibromopropane (Surr)	98		60 - 140	04/13/24 14:00	04/13/24 22:45	1

Lab Sample ID: LCS 380-85697/29-A
Matrix: Water
Analysis Batch: 85944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85697

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	0.200	0.223		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	0.200	0.206		ug/L		103	70 - 130
1,2-Dibromoethane	0.200	0.209		ug/L		105	70 - 130

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

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: MRL 380-85697/2-A
Matrix: Water
Analysis Batch: 85944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85697

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0200	0.0153	J	ug/L		77	60 - 140
		MRL	MRL				
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dibromopropane (Surr)	102		60 - 140				

Lab Sample ID: MRL 380-85697/3-A
Matrix: Water
Analysis Batch: 85944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85697

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0480		ug/L		96	60 - 140
1,2-Dibromo-3-Chloropropane	0.0100	0.00970	J	ug/L		97	60 - 140
1,2-Dibromoethane	0.0100	0.00981	J	ug/L		98	60 - 140
		MRL	MRL				
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dibromopropane (Surr)	99		60 - 140				

Lab Sample ID: 380-90805-BU-1-B MS
Matrix: Water
Analysis Batch: 85944

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 85697

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	<0.020		1.26	1.29		ug/L		102	65 - 135
1,2-Dibromo-3-Chloropropane	<0.010		0.252	0.261		ug/L		103	65 - 135
1,2-Dibromoethane	<0.010		0.252	0.257		ug/L		102	65 - 135
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dibromopropane (Surr)	98		60 - 140						

Lab Sample ID: 380-90805-BU-1-C DU
Matrix: Water
Analysis Batch: 85944

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 85697

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,2,3-Trichloropropane	<0.020		<0.020		ug/L		NC	20
1,2-Dibromo-3-Chloropropane	<0.010		<0.010		ug/L		NC	20
1,2-Dibromoethane	<0.010		<0.010		ug/L		NC	20
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
1,2-Dibromopropane (Surr)	104		60 - 140					

QC Sample Results

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

Job ID: 380-90531-1

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Lab Sample ID: MB 380-85428/3-A
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 85428

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Aldrin	<0.010		0.010	ug/L		04/11/24 14:25	04/12/24 03:56	1
Dieldrin	<0.010		0.010	ug/L		04/11/24 14:25	04/12/24 03:56	1
Toxaphene	<0.50		0.50	ug/L		04/11/24 14:25	04/12/24 03:56	1
Alachlor	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
Chlordane (n.o.s.)	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
Endrin	<0.010		0.010	ug/L		04/11/24 14:25	04/12/24 03:56	1
Heptachlor	<0.010		0.010	ug/L		04/11/24 14:25	04/12/24 03:56	1
Heptachlor epoxide	<0.010		0.010	ug/L		04/11/24 14:25	04/12/24 03:56	1
gamma-BHC (Lindane)	<0.010		0.010	ug/L		04/11/24 14:25	04/12/24 03:56	1
Methoxychlor	<0.050		0.050	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1016	<0.070		0.070	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1221	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1232	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1242	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1248	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1254	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1
PCB-1260	<0.070		0.070	ug/L		04/11/24 14:25	04/12/24 03:56	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		04/11/24 14:25	04/12/24 03:56	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	96		70 - 130	04/11/24 14:25	04/12/24 03:56	1

Lab Sample ID: MRL 380-85428/1-A
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85428

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aldrin	0.0100	0.0120		ug/L		120	50 - 150
Dieldrin	0.0100	0.0117		ug/L		117	50 - 150
Alachlor	0.100	0.0964	J	ug/L		96	50 - 150
Endrin	0.0100	0.00869	J	ug/L		87	50 - 150
Heptachlor	0.0100	0.0105		ug/L		105	50 - 150
Heptachlor epoxide	0.0100	0.0108		ug/L		108	50 - 150
gamma-BHC (Lindane)	0.0100	0.0101		ug/L		101	50 - 150
Methoxychlor	0.0500	0.0464	J	ug/L		93	50 - 150

Surrogate	MRL	MRL	Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	99		70 - 130

Lab Sample ID: MRL 380-85428/2-A
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85428

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Chlordane (n.o.s.)	0.100	0.116		ug/L		116	50 - 150

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: MRL 380-85428/2-A
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 85428

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL Qualifier</i>	<i>MRL Limits</i>
<i>Tetrachloro-m-xylene</i>	96		70 - 130

Lab Sample ID: 380-90336-F-1-A MS
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 85428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	<0.010		0.0199	0.0220		ug/L		111	65 - 135
Dieldrin	<0.010		0.0199	0.0220		ug/L		110	65 - 135
Alachlor	<0.10		0.199	0.194		ug/L		98	65 - 135
Endrin	<0.010		0.0199	0.0179		ug/L		90	65 - 135
Heptachlor	<0.010		0.0199	0.0192		ug/L		96	65 - 135
Heptachlor epoxide	<0.010		0.0199	0.0136		ug/L		68	65 - 135
gamma-BHC (Lindane)	<0.010		0.0199	0.0199		ug/L		100	65 - 135
Methoxychlor	<0.050		0.0997	0.0856		ug/L		86	65 - 135

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

Lab Sample ID: 380-90336-G-1-A MS
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 85428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	<0.10		0.497	0.520		ug/L		105	65 - 135

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS Qualifier</i>	<i>MS Limits</i>
<i>Tetrachloro-m-xylene</i>	109		70 - 130

Lab Sample ID: 380-90338-F-1-A MS
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 85428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	<0.010		0.0983	0.0965		ug/L		98	65 - 135
Dieldrin	<0.010		0.0983	0.0990		ug/L		101	65 - 135
Alachlor	<0.10		0.983	0.958		ug/L		97	65 - 135
Endrin	<0.010		0.0983	0.0888		ug/L		90	65 - 135
Heptachlor	<0.010		0.0983	0.0882		ug/L		90	65 - 135
Heptachlor epoxide	<0.010		0.0983	0.0932		ug/L		95	65 - 135
gamma-BHC (Lindane)	<0.010		0.0983	0.0957		ug/L		97	65 - 135
Methoxychlor	<0.050		0.492	0.461		ug/L		94	65 - 135

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS Qualifier</i>	<i>MS Limits</i>
<i>Tetrachloro-m-xylene</i>	92		70 - 130

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: 380-90338-G-1-A MS
Matrix: Water
Analysis Batch: 85835

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 85428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	<0.10		0.503	0.539		ug/L		107	65 - 135
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
Tetrachloro-m-xylene	106		70 - 130						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-85160/42
Matrix: Water
Analysis Batch: 85160

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<0.25		0.25	mg/L			04/10/24 01:12	1

Lab Sample ID: LCS 380-85160/45
Matrix: Water
Analysis Batch: 85160

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	50.0	50.5		mg/L		101	90 - 110

Lab Sample ID: LCSD 380-85160/46
Matrix: Water
Analysis Batch: 85160

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
Sulfate	50.0	50.4		mg/L		101	90 - 110	0	20

Lab Sample ID: MRL 380-85160/43
Matrix: Water
Analysis Batch: 85160

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	0.250	0.250		mg/L		100	50 - 150

Lab Sample ID: MRL 380-85160/44
Matrix: Water
Analysis Batch: 85160

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	1.00	0.976		mg/L		98	50 - 150

Lab Sample ID: 380-90479-A-1 MS
Matrix: Water
Analysis Batch: 85160

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
Sulfate	41		25.0	66.3		mg/L		101	80 - 120

QC Sample Results

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

Job ID: 380-90531-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-90479-A-1 MSD
Matrix: Water
Analysis Batch: 85160

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
Sulfate	41		25.0	65.9		mg/L		99	80 - 120	1	20

Lab Sample ID: MB 380-85161/42
Matrix: Water
Analysis Batch: 85161

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.050		0.050	mg/L			04/10/24 01:12	1
Nitrite as N	<0.050		0.050	mg/L			04/10/24 01:12	1

Lab Sample ID: LCS 380-85161/45
Matrix: Water
Analysis Batch: 85161

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.47		mg/L		99	90 - 110
Nitrite as N	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCSD 380-85161/46
Matrix: Water
Analysis Batch: 85161

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	2.39		mg/L		95	90 - 110	4	20
Nitrite as N	1.00	1.01		mg/L		101	90 - 110	0	20

Lab Sample ID: MRL 380-85161/43
Matrix: Water
Analysis Batch: 85161

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	0.0119	J	mg/L		95	50 - 150
Nitrite as N	0.0125	0.0113	J	mg/L		90	50 - 150

Lab Sample ID: MRL 380-85161/44
Matrix: Water
Analysis Batch: 85161

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	0.0457	J	mg/L		91	50 - 150
Nitrite as N	0.0500	0.0437	J	mg/L		87	50 - 150

Lab Sample ID: 380-90479-A-1 MS
Matrix: Water
Analysis Batch: 85161

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.27		1.25	1.47		mg/L		96	80 - 120
Nitrite as N	<0.050		0.500	0.506		mg/L		101	80 - 120

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QC Sample Results

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

Job ID: 380-90531-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-90479-A-1 MSD
Matrix: Water
Analysis Batch: 85161

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	0.27		1.25	1.45		mg/L		94	80 - 120	1	20
Nitrite as N	<0.050		0.500	0.499		mg/L		100	80 - 120	1	20

Lab Sample ID: MB 380-85351/39
Matrix: Water
Analysis Batch: 85351

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.050		0.050	mg/L			04/10/24 20:29	1
Nitrite as N	<0.050		0.050	mg/L			04/10/24 20:29	1

Lab Sample ID: LCS 380-85351/42
Matrix: Water
Analysis Batch: 85351

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.46		mg/L		98	90 - 110
Nitrite as N	1.00	0.983		mg/L		98	90 - 110

Lab Sample ID: LCSD 380-85351/43
Matrix: Water
Analysis Batch: 85351

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	2.44		mg/L		98	90 - 110	1	20
Nitrite as N	1.00	0.980		mg/L		98	90 - 110	0	20

Lab Sample ID: MRL 380-85351/40
Matrix: Water
Analysis Batch: 85351

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	0.0125	J	mg/L		100	50 - 150
Nitrite as N	0.0125	0.0125	J	mg/L		100	50 - 150

Lab Sample ID: MRL 380-85351/41
Matrix: Water
Analysis Batch: 85351

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	0.0454	J	mg/L		91	50 - 150
Nitrite as N	0.0500	0.0507		mg/L		101	50 - 150

Lab Sample ID: 380-90725-AG-1 MS
Matrix: Water
Analysis Batch: 85351

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.40		1.25	1.62		mg/L		98	80 - 120
Nitrite as N	<0.050		0.500	0.502		mg/L		100	80 - 120

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QC Sample Results

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

Job ID: 380-90531-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 380-90725-AG-1 MSD
Matrix: Water
Analysis Batch: 85351

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	0.40		1.25	1.62		mg/L		97	80 - 120	0	20
Nitrite as N	<0.050		0.500	0.502		mg/L		100	80 - 120	0	20

Lab Sample ID: MB 380-85352/39
Matrix: Water
Analysis Batch: 85352

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.50		0.50	mg/L			04/10/24 20:29	1
Sulfate	<0.25		0.25	mg/L			04/10/24 20:29	1

Lab Sample ID: LCS 380-85352/42
Matrix: Water
Analysis Batch: 85352

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	25.6		mg/L		102	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

Lab Sample ID: LCSD 380-85352/43
Matrix: Water
Analysis Batch: 85352

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.0	25.4		mg/L		102	90 - 110	1	20
Sulfate	50.0	50.4		mg/L		101	90 - 110	0	20

Lab Sample ID: MRL 380-85352/40
Matrix: Water
Analysis Batch: 85352

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	0.126	J	mg/L		101	50 - 150
Sulfate	0.250	0.237	J	mg/L		95	50 - 150

Lab Sample ID: MRL 380-85352/41
Matrix: Water
Analysis Batch: 85352

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	0.442	J	mg/L		88	50 - 150
Sulfate	0.999	0.960		mg/L		96	50 - 150

Lab Sample ID: 380-90725-AG-1 MS
Matrix: Water
Analysis Batch: 85352

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.99		12.5	13.4		mg/L		99	80 - 120
Sulfate	<0.25		25.0	25.1		mg/L		100	80 - 120

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QC Sample Results

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

Job ID: 380-90531-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 380-90725-AG-1 MSD
Matrix: Water
Analysis Batch: 85352

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
Chloride	0.99		12.5	13.4		mg/L		99	80 - 120	0	20
Sulfate	<0.25		25.0	25.1		mg/L		100	80 - 120	0	20

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

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

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

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

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

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

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

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

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

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

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

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

Lab Sample ID: 380-90389-G-2 MS
Matrix: Water
Analysis Batch: 85393

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	<5.0		50.0	52.4		ug/L		98	80 - 120

Lab Sample ID: 380-90389-G-2 MSD
Matrix: Water
Analysis Batch: 85393

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	<5.0		50.0	53.4		ug/L		100	80 - 120	2	20

QC Sample Results

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

Job ID: 380-90531-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MBL 380-85696/52
Matrix: Water
Analysis Batch: 85696

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

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.070		1.0	mg/L			04/11/24 17:43	1
Magnesium	<0.0099		0.10	mg/L			04/11/24 17:43	1
Potassium	<0.12		1.0	mg/L			04/11/24 17:43	1
Sodium	<0.41		1.0	mg/L			04/11/24 17:43	1

Lab Sample ID: LCS 380-85696/54
Matrix: Water
Analysis Batch: 85696

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	50.2		mg/L		100	85 - 115
Magnesium	20.0	19.9		mg/L		100	85 - 115
Potassium	20.0	21.3		mg/L		106	85 - 115
Sodium	50.0	52.0		mg/L		104	85 - 115

Lab Sample ID: LCSD 380-85696/55
Matrix: Water
Analysis Batch: 85696

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	50.4		mg/L		101	85 - 115	0	20
Magnesium	20.0	19.6		mg/L		98	85 - 115	1	20
Potassium	20.0	21.0		mg/L		105	85 - 115	1	20
Sodium	50.0	51.3		mg/L		103	85 - 115	1	20

Lab Sample ID: LLCS 380-85696/53
Matrix: Water
Analysis Batch: 85696

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	0.961	J	mg/L		96	50 - 150
Magnesium	0.100	0.0935	J	mg/L		93	50 - 150
Potassium	1.00	0.739	J	mg/L		74	50 - 150
Sodium	1.00	0.594	J	mg/L		59	50 - 150

Lab Sample ID: 380-90410-A-1 MS
Matrix: Water
Analysis Batch: 85696

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	15		50.0	62.1		mg/L		95	70 - 130
Magnesium	4.6		20.0	23.3		mg/L		94	70 - 130
Potassium	2.5		20.0	23.9		mg/L		107	70 - 130
Sodium	61		50.0	107		mg/L		92	70 - 130

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: 380-90410-A-1 MSD
Matrix: Water
Analysis Batch: 85696

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	15		50.0	59.2		mg/L		89	70 - 130	5	20
Magnesium	4.6		20.0	22.3		mg/L		89	70 - 130	4	20
Potassium	2.5		20.0	22.9		mg/L		102	70 - 130	4	20
Sodium	61		50.0	104		mg/L		86	70 - 130	3	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MBL 380-85496/57
Matrix: Water
Analysis Batch: 85496

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

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.48		1.0	ug/L			04/10/24 19:58	1
Arsenic	<0.49		1.0	ug/L			04/10/24 19:58	1
Beryllium	<0.18		1.0	ug/L			04/10/24 19:58	1
Cadmium	<0.081		0.50	ug/L			04/10/24 19:58	1
Chromium	<0.80		1.0	ug/L			04/10/24 19:58	1
Copper	<0.27		2.0	ug/L			04/10/24 19:58	1
Lead	<0.29		0.50	ug/L			04/10/24 19:58	1
Nickel	<0.38		5.0	ug/L			04/10/24 19:58	1
Selenium	<1.0		5.0	ug/L			04/10/24 19:58	1
Silver	<0.40		0.50	ug/L			04/10/24 19:58	1
Thallium	<0.32 ^+		1.0	ug/L			04/10/24 19:58	1
Zinc	<4.3		20	ug/L			04/10/24 19:58	1

Lab Sample ID: LCS 380-85496/59
Matrix: Water
Analysis Batch: 85496

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	50.1		ug/L		100	85 - 115
Arsenic	50.0	50.8		ug/L		102	85 - 115
Beryllium	25.0	22.1		ug/L		89	85 - 115
Cadmium	25.0	24.4		ug/L		98	85 - 115
Chromium	50.0	50.2		ug/L		100	85 - 115
Copper	50.0	48.8		ug/L		98	85 - 115
Lead	50.0	52.3		ug/L		105	85 - 115
Nickel	50.0	48.8		ug/L		98	85 - 115
Selenium	50.0	50.9		ug/L		102	85 - 115
Silver	25.0	23.6		ug/L		94	85 - 115
Zinc	50.0	50.2		ug/L		100	85 - 115

Lab Sample ID: LCSD 380-85496/60
Matrix: Water
Analysis Batch: 85496

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	48.6		ug/L		97	85 - 115	3	20
Arsenic	50.0	51.4		ug/L		103	85 - 115	1	20

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QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: LCSD 380-85496/60
Matrix: Water
Analysis Batch: 85496

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
Beryllium	25.0	21.5		ug/L		86	85 - 115	3	20
Cadmium	25.0	24.0		ug/L		96	85 - 115	2	20
Chromium	50.0	50.5		ug/L		101	85 - 115	1	20
Copper	50.0	48.8		ug/L		98	85 - 115	0	20
Lead	50.0	50.7		ug/L		101	85 - 115	3	20
Nickel	50.0	49.2		ug/L		98	85 - 115	1	20
Selenium	50.0	50.8		ug/L		102	85 - 115	0	20
Silver	25.0	23.5		ug/L		94	85 - 115	0	20
Zinc	50.0	51.3		ug/L		103	85 - 115	2	20

Lab Sample ID: LLCS 380-85496/58
Matrix: Water
Analysis Batch: 85496

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	0.985	J	ug/L		99	50 - 150
Arsenic	1.00	1.16		ug/L		116	50 - 150
Beryllium	1.00	0.851	J	ug/L		85	50 - 150
Cadmium	0.500	0.473	J	ug/L		95	50 - 150
Chromium	1.00	1.15		ug/L		115	50 - 150
Copper	2.00	2.04		ug/L		102	50 - 150
Lead	0.500	0.506		ug/L		101	50 - 150
Nickel	5.00	5.06		ug/L		101	50 - 150
Selenium	5.00	5.32		ug/L		106	50 - 150
Silver	0.500	<0.40		ug/L		76	50 - 150
Zinc	20.0	20.5		ug/L		103	50 - 150

Lab Sample ID: 380-90467-A-4 MS
Matrix: Water
Analysis Batch: 85496

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.0		50.0	50.9		ug/L		102	70 - 130
Arsenic	3.4		50.0	59.8		ug/L		113	70 - 130
Beryllium	<1.0		25.0	24.1		ug/L		96	70 - 130
Cadmium	<0.50		25.0	24.8		ug/L		99	70 - 130
Chromium	7.4		50.0	56.6		ug/L		98	70 - 130
Copper	<2.0		50.0	49.7		ug/L		97	70 - 130
Lead	<0.50		50.0	51.6		ug/L		103	70 - 130
Nickel	<5.0		50.0	48.8		ug/L		97	70 - 130
Selenium	<5.0		50.0	60.8		ug/L		119	70 - 130
Silver	<0.50		25.0	21.8		ug/L		87	70 - 130
Thallium	<1.0		50.0	51.8		ug/L		104	70 - 130
Zinc	87		50.0	137		ug/L		100	70 - 130

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: 380-90467-A-4 MSD
Matrix: Water
Analysis Batch: 85496

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.0		50.0	53.1		ug/L		106	70 - 130	4	20
Arsenic	3.4		50.0	60.9		ug/L		115	70 - 130	2	20
Beryllium	<1.0		25.0	24.2		ug/L		97	70 - 130	1	20
Cadmium	<0.50		25.0	25.1		ug/L		101	70 - 130	2	20
Chromium	7.4		50.0	58.2		ug/L		102	70 - 130	3	20
Copper	<2.0		50.0	49.9		ug/L		97	70 - 130	0	20
Lead	<0.50		50.0	50.9		ug/L		102	70 - 130	1	20
Nickel	<5.0		50.0	49.2		ug/L		98	70 - 130	1	20
Selenium	<5.0		50.0	61.8		ug/L		121	70 - 130	1	20
Silver	<0.50		25.0	23.4		ug/L		94	70 - 130	7	20
Thallium	<1.0		50.0	51.2		ug/L		102	70 - 130	1	20
Zinc	87		50.0	137		ug/L		101	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 810-95264/1-A
Matrix: Water
Analysis Batch: 95304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 95264

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		04/11/24 16:19	04/11/24 21:22	1

Lab Sample ID: LCS 810-95264/3-A
Matrix: Water
Analysis Batch: 95304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95264

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	1.05		ug/L		105	85 - 115

Lab Sample ID: LLCS 810-95264/2-A
Matrix: Water
Analysis Batch: 95304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95264

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.100	<0.086		ug/L		61	50 - 150

Lab Sample ID: 380-90382-G-1-B MS
Matrix: Water
Analysis Batch: 95304

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 95264

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.10		1.00	1.05		ug/L		105	70 - 130

Lab Sample ID: 380-90382-G-1-C MSD
Matrix: Water
Analysis Batch: 95304

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 95264

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.10		1.00	1.02		ug/L		102	70 - 130	2	20

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QC Sample Results

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

Job ID: 380-90531-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 380-85878/1
Matrix: Water
Analysis Batch: 85878

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<2.0		2.0	mg/L			04/12/24 14:23	1
Bicarbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			04/12/24 14:23	1
Carbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			04/12/24 14:23	1

Lab Sample ID: LCS 380-85878/3
Matrix: Water
Analysis Batch: 85878

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

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

Lab Sample ID: LCSD 380-85878/18
Matrix: Water
Analysis Batch: 85878

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	100	98.0		mg/L		98	90 - 110	0	20

Lab Sample ID: LLCS 380-85878/4
Matrix: Water
Analysis Batch: 85878

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	20.0	19.2		mg/L		96	90 - 110

Lab Sample ID: MRL 380-85878/2
Matrix: Water
Analysis Batch: 85878

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	2.00	2.07		mg/L		104	50 - 150

Lab Sample ID: 380-90768-A-4 MS
Matrix: Water
Analysis Batch: 85878

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	160	F1	100	187	F1	mg/L		31	80 - 120

Lab Sample ID: 380-90768-A-4 MSD
Matrix: Water
Analysis Batch: 85878

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	160	F1	100	178	F1	mg/L		22	80 - 120	5	20

QC Sample Results

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

Job ID: 380-90531-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 380-90768-A-4 DU
Matrix: Water
Analysis Batch: 85878

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity	160	F1	155		mg/L		1	20
Bicarbonate Alkalinity as CaCO3	160		155		mg/L		1	20
Carbonate Alkalinity as CaCO3	<2.0		<2.0		mg/L		NC	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 380-85881/2
Matrix: Water
Analysis Batch: 85881

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Specific Conductance	<2.0		2.0	umhos/cm			04/12/24 14:23	1

Lab Sample ID: LCS 380-85881/4
Matrix: Water
Analysis Batch: 85881

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits	RPD
		Result	Qualifier					
Specific Conductance	1000	987		umhos/cm		99	90 - 110	

Lab Sample ID: LCSD 380-85881/16
Matrix: Water
Analysis Batch: 85881

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	983		umhos/cm		98	90 - 110	0	10

Lab Sample ID: MRL 380-85881/3
Matrix: Water
Analysis Batch: 85881

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits	RPD
		Result	Qualifier					
Specific Conductance	2.00	2.00		umhos/cm		100	50 - 150	

Lab Sample ID: 380-90768-A-4 DU
Matrix: Water
Analysis Batch: 85881

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Specific Conductance	570		572		umhos/cm		0.3	20

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

Lab Sample ID: MB 380-85282/1
Matrix: Water
Analysis Batch: 85282

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	<10		10	mg/L			04/10/24 13:06	1

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QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: HLCS 380-85282/5
Matrix: Water
Analysis Batch: 85282

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	694		mg/L		99	80 - 114

Lab Sample ID: LCS 380-85282/4
Matrix: Water
Analysis Batch: 85282

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

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

Lab Sample ID: MRL 380-85282/2
Matrix: Water
Analysis Batch: 85282

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	8.00	J	mg/L		80	50 - 150

Lab Sample ID: MRL 380-85282/3
Matrix: Water
Analysis Batch: 85282

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	8.00	J	mg/L		80	50 - 150

Lab Sample ID: 380-90381-G-1 DU
Matrix: Water
Analysis Batch: 85282

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	220		218		mg/L		0.9	10

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-85876/40
Matrix: Water
Analysis Batch: 85876

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.050		0.050	mg/L			04/12/24 14:46	1

Lab Sample ID: MB 380-85876/6
Matrix: Water
Analysis Batch: 85876

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.050		0.050	mg/L			04/12/24 12:06	1

QC Sample Results

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

Job ID: 380-90531-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 380-85876/42
Matrix: Water
Analysis Batch: 85876

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	1.05		mg/L		105	90 - 110

Lab Sample ID: LCSD 380-85876/43
Matrix: Water
Analysis Batch: 85876

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.00	1.05		mg/L		105	90 - 110	0	10

Lab Sample ID: MRL 380-85876/41
Matrix: Water
Analysis Batch: 85876

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.0500	0.0555		mg/L		111	50 - 150

Lab Sample ID: MRL 380-85876/7
Matrix: Water
Analysis Batch: 85876

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.0500	0.0561		mg/L		112	50 - 150

Lab Sample ID: 380-90768-A-3 MS
Matrix: Water
Analysis Batch: 85876

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.23		1.00	1.30		mg/L		107	80 - 120

Lab Sample ID: 380-90768-A-3 MSD
Matrix: Water
Analysis Batch: 85876

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	0.23		1.00	1.30		mg/L		108	80 - 120	0	20

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-85883/4
Matrix: Water
Analysis Batch: 85883

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.7			SU			04/12/24 14:23	1

QC Sample Results

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

Job ID: 380-90531-1

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

Lab Sample ID: LCS 380-85883/5
Matrix: Water
Analysis Batch: 85883

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	6.00	6.0		SU		101	98 - 102

Lab Sample ID: LCSD 380-85883/17
Matrix: Water
Analysis Batch: 85883

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		101	98 - 102	0	2

Lab Sample ID: 380-90768-A-4 DU
Matrix: Water
Analysis Batch: 85883

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.1		8.0		SU		0.6	2

Method: SM 4500 S2 D - Sulfide, Total

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

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

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

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

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

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

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

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	0.250	0.263		mg/L		105	90 - 110	8	20

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

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.0500	0.0335	J	mg/L		67	50 - 150

QC Sample Results

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

Job ID: 380-90531-1

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

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

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.0500	0.0355	J	mg/L		71	50 - 150

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

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	<0.050		0.250	0.233		mg/L		93	80 - 120

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

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	<0.050		0.250	0.253		mg/L		101	80 - 120	8	20

QC Association Summary

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

Job ID: 380-90531-1

GC/MS VOA

Analysis Batch: 85520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	524.2	
380-90531-2	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	524.2	
MB 380-85520/22	Method Blank	Total/NA	Water	524.2	
LCS 380-85520/19	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-85520/20	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-85520/21	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 85829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	524.2	
380-90531-2	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	524.2	
MB 380-85829/8	Method Blank	Total/NA	Water	524.2	
LCS 380-85829/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-85829/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-85829/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-85829/4	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 86072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	524.2	
380-90531-2	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	524.2	

GC/MS Semi VOA

Prep Batch: 85242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	
MB 380-85242/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-85242/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-85242/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-85242/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-90531-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	
380-90531-1 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	

Analysis Batch: 85490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	85242
MB 380-85242/21-A	Method Blank	Total/NA	Water	525.2	85242
LCS 380-85242/23-A	Lab Control Sample	Total/NA	Water	525.2	85242
LCSD 380-85242/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	85242
MRL 380-85242/22-A	Lab Control Sample	Total/NA	Water	525.2	85242
380-90531-1 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	85242
380-90531-1 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	85242

GC Semi VOA

Prep Batch: 85428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	505	
MB 380-85428/3-A	Method Blank	Total/NA	Water	505	
MRL 380-85428/1-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-85428/2-A	Lab Control Sample	Total/NA	Water	505	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-90531-1

GC Semi VOA (Continued)

Prep Batch: 85428 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90336-F-1-A MS	Matrix Spike	Total/NA	Water	505	
380-90336-G-1-A MS	Matrix Spike	Total/NA	Water	505	
380-90338-F-1-A MS	Matrix Spike	Total/NA	Water	505	
380-90338-G-1-A MS	Matrix Spike	Total/NA	Water	505	

Prep Batch: 85451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	504.1	
MBL 380-85451/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-85451/29-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-85451/2-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-85451/3-A	Lab Control Sample	Total/NA	Water	504.1	
380-90796-BQ-1-B MS	Matrix Spike	Total/NA	Water	504.1	
380-90796-BQ-1-C DU	Duplicate	Total/NA	Water	504.1	

Analysis Batch: 85666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	504.1	85451
MBL 380-85451/4-A	Method Blank	Total/NA	Water	504.1	85451
LCS 380-85451/29-A	Lab Control Sample	Total/NA	Water	504.1	85451
MRL 380-85451/2-A	Lab Control Sample	Total/NA	Water	504.1	85451
MRL 380-85451/3-A	Lab Control Sample	Total/NA	Water	504.1	85451
380-90796-BQ-1-B MS	Matrix Spike	Total/NA	Water	504.1	85451
380-90796-BQ-1-C DU	Duplicate	Total/NA	Water	504.1	85451

Prep Batch: 85697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-2	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	504.1	
MBL 380-85697/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-85697/29-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-85697/2-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-85697/3-A	Lab Control Sample	Total/NA	Water	504.1	
380-90805-BU-1-B MS	Matrix Spike	Total/NA	Water	504.1	
380-90805-BU-1-C DU	Duplicate	Total/NA	Water	504.1	

Analysis Batch: 85835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	505	85428
MB 380-85428/3-A	Method Blank	Total/NA	Water	505	85428
MRL 380-85428/1-A	Lab Control Sample	Total/NA	Water	505	85428
MRL 380-85428/2-A	Lab Control Sample	Total/NA	Water	505	85428
380-90336-F-1-A MS	Matrix Spike	Total/NA	Water	505	85428
380-90336-G-1-A MS	Matrix Spike	Total/NA	Water	505	85428
380-90338-F-1-A MS	Matrix Spike	Total/NA	Water	505	85428
380-90338-G-1-A MS	Matrix Spike	Total/NA	Water	505	85428

Analysis Batch: 85944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-2	TB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	504.1	85697
MBL 380-85697/4-A	Method Blank	Total/NA	Water	504.1	85697
LCS 380-85697/29-A	Lab Control Sample	Total/NA	Water	504.1	85697

QC Association Summary

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

Job ID: 380-90531-1

GC Semi VOA (Continued)

Analysis Batch: 85944 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-85697/2-A	Lab Control Sample	Total/NA	Water	504.1	85697
MRL 380-85697/3-A	Lab Control Sample	Total/NA	Water	504.1	85697
380-90805-BU-1-B MS	Matrix Spike	Total/NA	Water	504.1	85697
380-90805-BU-1-C DU	Duplicate	Total/NA	Water	504.1	85697

HPLC/IC

Analysis Batch: 85160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	300.0	
MB 380-85160/42	Method Blank	Total/NA	Water	300.0	
LCS 380-85160/45	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-85160/46	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-85160/43	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-85160/44	Lab Control Sample	Total/NA	Water	300.0	
380-90479-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-90479-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 85161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	300.0	
MB 380-85161/42	Method Blank	Total/NA	Water	300.0	
LCS 380-85161/45	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-85161/46	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-85161/43	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-85161/44	Lab Control Sample	Total/NA	Water	300.0	
380-90479-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-90479-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 85351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-85351/39	Method Blank	Total/NA	Water	300.0	
LCS 380-85351/42	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-85351/43	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-85351/40	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-85351/41	Lab Control Sample	Total/NA	Water	300.0	
380-90725-AG-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-90725-AG-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 85352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	300.0	
MB 380-85352/39	Method Blank	Total/NA	Water	300.0	
LCS 380-85352/42	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-85352/43	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-85352/40	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-85352/41	Lab Control Sample	Total/NA	Water	300.0	
380-90725-AG-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-90725-AG-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

QC Association Summary

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

Job ID: 380-90531-1

HPLC/IC

Analysis Batch: 85393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	300.0	
MB 380-85393/5	Method Blank	Total/NA	Water	300.0	
LCS 380-85393/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-85393/7	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-85393/4	Lab Control Sample	Total/NA	Water	300.0	
380-90389-G-2 MS	Matrix Spike	Total/NA	Water	300.0	
380-90389-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Analysis Batch: 85496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	200.8	
MBL 380-85496/57	Method Blank	Total/NA	Water	200.8	
LCS 380-85496/59	Lab Control Sample	Total/NA	Water	200.8	
LCSD 380-85496/60	Lab Control Sample Dup	Total/NA	Water	200.8	
LLCS 380-85496/58	Lab Control Sample	Total/NA	Water	200.8	
380-90467-A-4 MS	Matrix Spike	Total/NA	Water	200.8	
380-90467-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 85696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	200.7 Rev 4.4	
MBL 380-85696/52	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-85696/54	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-85696/55	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-85696/53	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-90410-A-1 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-90410-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

Prep Batch: 95264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	245.1	
MB 810-95264/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-95264/3-A	Lab Control Sample	Total/NA	Water	245.1	
LLCS 810-95264/2-A	Lab Control Sample	Total/NA	Water	245.1	
380-90382-G-1-B MS	Matrix Spike	Total/NA	Water	245.1	
380-90382-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 95304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	245.1	95264
MB 810-95264/1-A	Method Blank	Total/NA	Water	245.1	95264
LCS 810-95264/3-A	Lab Control Sample	Total/NA	Water	245.1	95264
LLCS 810-95264/2-A	Lab Control Sample	Total/NA	Water	245.1	95264
380-90382-G-1-B MS	Matrix Spike	Total/NA	Water	245.1	95264
380-90382-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	95264

QC Association Summary

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

Job ID: 380-90531-1

General Chemistry

Analysis Batch: 85282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	SM 2540C	
MB 380-85282/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-85282/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-85282/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-85282/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-85282/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-90381-G-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 85430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	SM 4500 S2 D	
MBL 380-85430/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-85430/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-85430/25	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-85430/17	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-85430/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-89869-G-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
380-89869-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 85876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	SM 4500 F C	
MB 380-85876/40	Method Blank	Total/NA	Water	SM 4500 F C	
MB 380-85876/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-85876/42	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-85876/43	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-85876/41	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-85876/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-90768-A-3 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-90768-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 85878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	SM 2320B	
MB 380-85878/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-85878/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-85878/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-85878/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-85878/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-90768-A-4 MS	Matrix Spike	Total/NA	Water	SM 2320B	
380-90768-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 2320B	
380-90768-A-4 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 85881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	SM 2510B	
MB 380-85881/2	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-85881/4	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-85881/16	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-85881/3	Lab Control Sample	Total/NA	Water	SM 2510B	
380-90768-A-4 DU	Duplicate	Total/NA	Water	SM 2510B	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-90531-1

General Chemistry

Analysis Batch: 85883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-90531-1	AIEA GULCH WELLS PUMP 2	Total/NA	Water	SM 4500 H+ B	
MB 380-85883/4	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-85883/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-85883/17	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-90768-A-4 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

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Lab Chronicle

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

Job ID: 380-90531-1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-1

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	85829	N4CJ	EA POM	04/14/24 19:20
Total/NA	Analysis	524.2		1	86072	UKCP	EA POM	04/14/24 19:20
Total/NA	Analysis	524.2		1	85520	WE3W	EA POM	04/11/24 17:06
Total/NA	Prep	525.2			85242	OTM3	EA POM	04/11/24 08:23
Total/NA	Analysis	525.2		1	85490	UPAC	EA POM	04/11/24 16:40
Total/NA	Prep	504.1			85451	LZ8Q	EA POM	04/11/24 16:00 - 04/11/24 17:00 ¹
Total/NA	Analysis	504.1		1	85666	LZ8Q	EA POM	04/12/24 01:02
Total/NA	Prep	505			85428	DR5R	EA POM	04/11/24 14:25 - 04/11/24 15:30 ¹
Total/NA	Analysis	505		1	85835	ULRL	EA POM	04/12/24 06:03
Total/NA	Analysis	300.0		1	85160	XLG4	EA POM	04/10/24 03:56
Total/NA	Analysis	300.0		1	85161	XLG4	EA POM	04/10/24 03:56
Total/NA	Analysis	300.0		1	85393	UNJR	EA POM	04/11/24 05:09
Total/NA	Analysis	300.0		5	85352	XLG4	EA POM	04/10/24 23:17
Total/NA	Analysis	200.7 Rev 4.4		1	85696	YHP7	EA POM	04/11/24 18:11
Total/NA	Analysis	200.8		1	85496	T8RV	EA POM	04/10/24 20:28
Total/NA	Prep	245.1			95264	AC	EA SB	04/11/24 16:19
Total/NA	Analysis	245.1		1	95304	AC	EA SB	04/11/24 22:14
Total/NA	Analysis	SM 2320B		1	85878	GP4S	EA POM	04/12/24 16:15
Total/NA	Analysis	SM 2510B		1	85881	GP4S	EA POM	04/12/24 16:15
Total/NA	Analysis	SM 2540C		1	85282	UJRF	EA POM	04/10/24 13:06
Total/NA	Analysis	SM 4500 F C		1	85876	GP4S	EA POM	04/12/24 15:46
Total/NA	Analysis	SM 4500 H+ B		1	85883	GP4S	EA POM	04/12/24 16:15
Total/NA	Analysis	SM 4500 S2 D		1	85430	MQP5	EA POM	04/11/24 09:33

Client Sample ID: TB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-90531-2

Date Collected: 04/08/24 08:57

Matrix: Water

Date Received: 04/09/24 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	85829	N4CJ	EA POM	04/14/24 19:42
Total/NA	Analysis	524.2		1	86072	UKCP	EA POM	04/14/24 19:42
Total/NA	Analysis	524.2		1	85520	WE3W	EA POM	04/11/24 17:28
Total/NA	Prep	504.1			85697	LZ8Q	EA POM	04/13/24 14:00 - 04/13/24 16:00 ¹
Total/NA	Analysis	504.1		1	85944	LZ8Q	EA POM	04/14/24 07:52

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

Laboratory References:

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

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

Accreditation/Certification Summary

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

Job ID: 380-90531-1

Laboratory: Eurofins Eaton Analytical Pomona

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

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

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

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

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

Accreditation/Certification Summary

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

Job ID: 380-90531-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4'-DDT
525.2	525.2	Water	Acenaphthene
525.2	525.2	Water	Acenaphthylene
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	Anthracene
525.2	525.2	Water	Benz(a)anthracene
525.2	525.2	Water	Benzo[b]fluoranthene
525.2	525.2	Water	Benzo[g,h,i]perylene
525.2	525.2	Water	Benzo[k]fluoranthene
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Bromacil
525.2	525.2	Water	Butylbenzylphthalate
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	Chrysene
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Dibenz(a,h)anthracene
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Diethylphthalate
525.2	525.2	Water	Dimethylphthalate
525.2	525.2	Water	Di-n-butyl phthalate
525.2	525.2	Water	Di-n-octyl phthalate
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	Fluoranthene
525.2	525.2	Water	Fluorene
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate

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

Accreditation/Certification Summary

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

Job ID: 380-90531-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
SM 2320B		Water	Bicarbonate Alkalinity as CaCO ₃
SM 2320B		Water	Carbonate Alkalinity as CaCO ₃
SM 4500 S2 D		Water	Sulfide

Laboratory: Eurofins Eaton Analytical South Bend

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

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

Accreditation/Certification Summary

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

Job ID: 380-90531-1

Laboratory: Eurofins Eaton Analytical South Bend (Continued)

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

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



Method Summary

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

Job ID: 380-90531-1

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

Protocol References:

EPA = US Environmental Protection Agency

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

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

None = None

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

Laboratory References:

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

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

Sample Summary

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

Job ID: 380-90531-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-90531-1	AIEA GULCH WELLS PUMP 2	Water	04/08/24 08:57	04/09/24 09:45
380-90531-2	TB: AIEA GULCH WELLS PUMP 2	Water	04/08/24 08:57	04/09/24 09:45

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Chain of Custody Record



Client Information Client Contact: Dr. Ron Fenstermacher City & County of Honolulu Address: 630 South Beretania Street Chemistry Lab Honolulu State, Zip: HI, 96843 Phone: 808-748-5091(Tel) Email: RFENSTERMACHER@hbws.org Project Name: RED-HILL Site: Hawaii		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com		Carrier Tracking No(s): State of Origin: Job #: Page 1 of 2 COC No: 380-21932-1845.1	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Analysis Requested 504.1_PREC_505_LL_PRC 2320B_2510B_SM4500_H+ 200.7_200.8 2540C_Calcd - Total Dissolved Solids (TDS) SM4500_S2_D - Sulfide, Total 524.2_Pres_PRC_524.2_SIM_PRC 525.2_PRC - 525plus Plus TICs 300_OF_28D_B_300_OF_28D_PRC_300_OF_48H_PRC_4500_F_C 255.1 - Local Method SUBCONTRACT - 625 PAH Phys (EAL) + TICs SUBCONTRACT - 625 Base Neutral LL (EAL) Phys SUBCONTRACT - 625 Acid LL (EAL) Phys 8015B_GRO_LL - (MOD) GRO Total Number of Containers			
Sample Identification KAAMILO WELLS AIEA GULCH WELLS PUMP 2 AIEA WELLS P 1 (260) HALAWA WELLS UNITS 1 & 2 MOANALUA WELLS TB: KAAMILO WELLS TB: AIEA GULCH WELLS PUMP 2 TB: AIEA WELLS PUMPS1&2(260) TB: HALAWA WELLS UNITS 1 & 2 TB: MOANALUA WELLS		Sample Date 4/8/24 Sample Time 0957 Sample Type (C=Comp, G=grab) G Matrix (Water, Solid, Onwater, Air) Water Water Water Water Water Water Water Water Water		Field Filtered Sample (Yes or No) 504.1_PREC_505_LL_PRC 2320B_2510B_SM4500_H+ 200.7_200.8 2540C_Calcd - Total Dissolved Solids (TDS) SM4500_S2_D - Sulfide, Total 524.2_Pres_PRC_524.2_SIM_PRC 525.2_PRC - 525plus Plus TICs 300_OF_28D_B_300_OF_28D_PRC_300_OF_48H_PRC_4500_F_C 255.1 - Local Method SUBCONTRACT - 625 PAH Phys (EAL) + TICs SUBCONTRACT - 625 Base Neutral LL (EAL) Phys SUBCONTRACT - 625 Acid LL (EAL) Phys 8015B_GRO_LL - (MOD) GRO Total Number of Containers	
Possible Hazard Identification <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		Special Instructions/Note: 380-90531 COC 775868394832 Method of Shipment: <input checked="" type="checkbox"/> FedEx: 775 868394832 Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months			
Empty Kit Relinquished by: Relinquished by: Relinquished by: Relinquished by:		Date/Time: 4-8-24 1200 Date/Time: Date/Time: Date/Time:		Received by: Received by: Received by: Company: Company: Company: Company: Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 1. 1.4 - 0.2 = 1.2 (630A) 50 2. 1.3 - 0.2 = 1.1 (630A) 50 Ver: 06/08/2021			



Chain of Custody Record



10/10/2021 10:00 AM

Client Information Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu Address: 630 South Beretania Street Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5091 (Tel) Email: RFENSTEMACHER@hbws.org Project Name: RED-HILL Site: Hawaii		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com PWSID		Sampler: <i>Oldberg</i> Phone:		Carrier Tracking No(s): State of Origin:		COC No: 380-21932-1845.2 Page: Page 2 of 2 Job #:			
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #: 3800111 Project #: 3800111 SSO#:		Analysis Requested		Preservation Codes: A - HCL B - NaOH O - AsNaO2 C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDTA Other:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)		Total Number of Containers:		Special Instructions/Notes:	
Sample Identification KAAMILO WELLS AIEA GULCH WELLS PUMP 2 AIEA WELLS P____ (260) HALAWA WELLS UNITS 1 & 2 MOANALUA WELLS TB: KAAMILO WELLS TB: AIEA GULCH WELLS PUMP 2 TB: AIEA WELLS PUMPS1&2(260) TB: HALAWA WELLS UNITS 1 & 2 TB: MOANALUA WELLS		Matrix (W=water, S=solid, G=grab, T=tissue, A=air) Sample Type (C=Comp, G=grab) Sample Time Sample Date Preservation Code:		Field Filtered Sample (Yes or No) Performance (Yes or No) 8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18 8015B_DAI - Ethanol 5041_PREC - Local Method		Q N R Z Z 3		Special Instructions/OC Requirements:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/OC Requirements: ① 775868394832 Method of Shipment: ② FedEx: 775868394843 Date/Time: 4-8-24 9:45 Date/Time: 4-9-24 9:45 Date/Time:	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Date/Time: 4-8-24 1200 Date/Time: Date/Time:		Received by: <i>Samuel Ortiz</i> Received by: Received by:		Company: Company Company: Company Company: Company		Cooler Temperature(s) °C and Other Remarks: ① 1.4-0.2=1.2 (630A) ② 2.1.3-0.2=1.1 (630A) ③ ④ Ver: 06/08/2021		Custody Seal No.: Δ Yes Δ No	



Bottle Order Information

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

Order Completion Information

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

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

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



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

Total Bottle Summary		180
Bottle Type Description		Bottle Count
Normal		
Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	30
Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	15
Amber Glass 500mL - Na2SO3	Sodium Sulfite	10
Plastic 125mL - unpreserved	None	10
Plastic 250ml - unpreserved	None	5
Plastic 250ml - with Nitric Acid	Nitric Acid	5
Plastic 250ml - with Zinc Acetate & NaOH	Zinc Acetate and Sodium Hydroxide	5
Plastic 500ml - unpreserved	None	5
Plastic 500ml - with Nitric Acid	Nitric Acid	5
Voa Vial 40ml - Hydrochloric Acid	Hydrochloric Acid	20
Voa Vial 40ml - unpreserved	None	10
Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	30
Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	30
Trip Blank		55
Voa Vial 40ml - Hydrochloric Acid	Hydrochloric Acid	10
Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	30
Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	15
Total Bottles:		235

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



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-90531-1

Login Number: 90531
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-90531-1

Login Number: 90531
List Number: 3
Creator: Pehling-Wright, Penny

List Source: Eurofins Eaton Analytical South Bend
List Creation: 04/11/24 02:27 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

