

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-80485-1

Eurofins Eaton Analytical Pomona

Job Notes

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

Compliance Statement

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

Authorization



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Authorized for release by
Rachelle Arada, Project Manager
Rachelle.Arada@et.eurofinsus.com
(626)386-1106



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Definitions/Glossary

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

Job ID: 380-80485-1

Qualifiers

GC/MS Semi VOA

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

GC/MS 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
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
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.

Metals

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Definitions/Glossary

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

Job ID: 380-80485-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 380-80485-1

Job ID: 380-80485-1

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Job Narrative 380-80485-1

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 1/26/2024 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 2.3°C, 4.2°C and 4.3°C

Receipt Exceptions

Headspace exists (the bubbles are greater than 6 mm) in all six of the received 524 Travel Blank vials. Analysis cancelled, client will resample.

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

Method 300_OF_28D_B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-73875 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 300_OF_48H_PREC: The matrix spike duplicate (MSD) recoveries for analytical batch 380-73774 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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 380-73926 contained Silver above the detection limit. All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

General Chemistry

Method SM4500_S2_D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-74002 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

Eurofins Eaton Analytical Pomona

Detection Summary

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dieldrin	0.038		0.010	ug/L	1		505	Total/NA
Chlordane (n.o.s.)	0.13		0.10	ug/L	1		505	Total/NA
Bromide	340	F1	5.0	ug/L	1		300.0	Total/NA
Chloride	150		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	1.3		0.25	mg/L	5		300.0	Total/NA
Sulfate	24		1.3	mg/L	5		300.0	Total/NA
Calcium	24		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	23		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.7		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	57		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	84		2.0	ug/L	1		200.8	Total/NA
Zinc	21		20	ug/L	1		200.8	Total/NA
Alkalinity	66		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	66		2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	650		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	410		20	mg/L	1		SM 2540C	Total/NA
Fluoride	0.058		0.050	mg/L	1		SM 4500 F C	Total/NA
pH	7.5	HF		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: TRAVEL BLANK

Lab Sample ID: 380-80485-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
2,4'-DDE	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
2,4'-DDT	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
4,4'-DDD	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
4,4'-DDE	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
4,4'-DDT	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Acenaphthene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Acenaphthylene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Acetochlor	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Alachlor	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
alpha-BHC	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
alpha-Chlordane	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Anthracene	<0.020		0.020	ug/L		01/31/24 09:40	02/01/24 11:42	1
Atrazine	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Benz(a)anthracene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/31/24 09:40	02/01/24 11:42	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		01/31/24 09:40	02/01/24 11:42	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/31/24 09:40	02/01/24 11:42	1
beta-BHC	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		01/31/24 09:40	02/01/24 11:42	1
Bromacil	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Butachlor	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Butylbenzylphthalate	<0.49		0.49	ug/L		01/31/24 09:40	02/01/24 11:42	1
Chlorobenzilate	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Chloroneb	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Chlorothalonil (Draconil, Bravo)	<0.099	^3+	0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Chlorpyrifos	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Chrysene	<0.020		0.020	ug/L		01/31/24 09:40	02/01/24 11:42	1
delta-BHC	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/31/24 09:40	02/01/24 11:42	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Dieldrin	<0.20		0.20	ug/L		01/31/24 09:40	02/01/24 11:42	1
Diethylphthalate	<0.49		0.49	ug/L		01/31/24 09:40	02/01/24 11:42	1
Dimethylphthalate	<0.49		0.49	ug/L		01/31/24 09:40	02/01/24 11:42	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		01/31/24 09:40	02/01/24 11:42	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Endosulfan sulfate	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Endrin	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Endrin aldehyde	<0.099	^3+	0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
EPTC	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Fluoranthene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Fluorene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		01/31/24 09:40	02/01/24 11:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-Chlordane	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Heptachlor	<0.039		0.039	ug/L		01/31/24 09:40	02/01/24 11:42	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Hexachlorobenzene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Isophorone	<0.49		0.49	ug/L		01/31/24 09:40	02/01/24 11:42	1
Malathion	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Methoxychlor	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Metolachlor	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Molinate	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Naphthalene	<0.30		0.30	ug/L		01/31/24 09:40	02/01/24 11:42	1
Parathion	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Phenanthrene	<0.039		0.039	ug/L		01/31/24 09:40	02/01/24 11:42	1
Propachlor	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Pyrene	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Simazine	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Terbacil	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Terbuthylazine	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
Thiobencarb	<0.20		0.20	ug/L		01/31/24 09:40	02/01/24 11:42	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/31/24 09:40	02/01/24 11:42	1
trans-Nonachlor	<0.049		0.049	ug/L		01/31/24 09:40	02/01/24 11:42	1
Trifluralin	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
1-Methylnaphthalene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1
2-Methylnaphthalene	<0.099		0.099	ug/L		01/31/24 09:40	02/01/24 11:42	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	01/31/24 09:40	02/01/24 11:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	91		70 - 130	01/31/24 09:40	02/01/24 11:42	1
Perylene-d12	111		70 - 130	01/31/24 09:40	02/01/24 11:42	1
Triphenylphosphate	116		70 - 130	01/31/24 09:40	02/01/24 11:42	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		01/29/24 14:30	01/30/24 06:20	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		01/29/24 14:30	01/30/24 06:20	1
1,2-Dibromoethane	<0.010		0.010	ug/L		01/29/24 14:30	01/30/24 06:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	99		60 - 140	01/29/24 14:30	01/30/24 06:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 21:27	1
Dieldrin	0.038		0.010	ug/L		01/29/24 13:31	01/29/24 21:27	1
Toxaphene	<0.50		0.50	ug/L		01/29/24 13:31	01/29/24 21:27	1
Alachlor	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1
Chlordane (n.o.s.)	0.13		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 21:27	1
Heptachlor	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 21:27	1
Heptachlor epoxide	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 21:27	1
gamma-BHC (Lindane)	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 21:27	1
Methoxychlor	<0.050		0.050	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1016	<0.070		0.070	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1221	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1232	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1242	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1248	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1254	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1
PCB-1260	<0.070		0.070	ug/L		01/29/24 13:31	01/29/24 21:27	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		70 - 130	01/29/24 13:31	01/29/24 21:27	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	340	F1	5.0	ug/L			01/30/24 03:06	1
Chloride	150		2.5	mg/L			01/27/24 01:05	5
Nitrate as N	1.3		0.25	mg/L			01/27/24 01:05	5
Nitrite as N	<0.25	F1	0.25	mg/L			01/27/24 01:05	5
Sulfate	24		1.3	mg/L			01/27/24 01:05	5

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	24		1.0	mg/L			01/29/24 19:06	1
Magnesium	23		0.10	mg/L			01/29/24 19:06	1
Potassium	2.7		1.0	mg/L			01/29/24 19:06	1
Sodium	57		1.0	mg/L			01/29/24 19:06	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			01/29/24 14:52	1
Arsenic	<1.0		1.0	ug/L			01/29/24 14:52	1
Beryllium	<1.0		1.0	ug/L			01/29/24 14:52	1
Cadmium	<0.50		0.50	ug/L			01/29/24 14:52	1
Chromium	1.8		1.0	ug/L			01/29/24 14:52	1
Copper	84		2.0	ug/L			01/29/24 14:52	1
Lead	<0.50		0.50	ug/L			01/29/24 14:52	1
Nickel	<5.0		5.0	ug/L			01/29/24 14:52	1
Selenium	<5.0		5.0	ug/L			01/29/24 14:52	1
Silver	<0.50	^2	0.50	ug/L			01/29/24 14:52	1
Thallium	<1.0		1.0	ug/L			01/29/24 14:52	1
Zinc	21		20	ug/L			01/29/24 14:52	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		02/06/24 12:26	02/06/24 17:16	1

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Client Sample Results

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	66		2.0	mg/L			01/31/24 20:40	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	66		2.0	mg/L			01/31/24 20:40	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.0		2.0	mg/L			01/31/24 20:40	1
Specific Conductance (SM 2510B)	650		2.0	umhos/cm			01/31/24 20:40	1
Total Dissolved Solids (SM 2540C)	410		20	mg/L			01/29/24 14:32	1
Fluoride (SM 4500 F C)	0.058		0.050	mg/L			02/02/24 14:17	1
pH (SM 4500 H+ B)	7.5	HF		SU			01/31/24 20:40	1
Sulfide (SM 4500 S2 D)	<0.050	F1	0.050	mg/L			01/30/24 14:45	1

Client Sample ID: TRAVEL BLANK

Lab Sample ID: 380-80485-2

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

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		01/29/24 16:00	01/30/24 02:46	1
1,2-Dibromo-3-Chloropropane	<0.010		0.010	ug/L		01/29/24 16:00	01/30/24 02:46	1
1,2-Dibromoethane	<0.010		0.010	ug/L		01/29/24 16:00	01/30/24 02:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	89		60 - 140			01/29/24 16:00	01/30/24 02:46	1

Action Limit Summary

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

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
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	<0.099		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	<0.099		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	<0.50		ug/L		3		505	Total/NA
Alachlor	<0.10		ug/L		2		505	Total/NA
Chlordane (n.o.s.)	0.13		ug/L		2		505	Total/NA
Endrin	<0.010		ug/L		2		505	Total/NA
Heptachlor	<0.010		ug/L		0.4		505	Total/NA
Heptachlor epoxide	<0.010		ug/L		0.2		505	Total/NA
gamma-BHC (Lindane)	<0.010		ug/L		0.2		505	Total/NA
Methoxychlor	<0.050		ug/L		40		505	Total/NA
Polychlorinated biphenyls, Total	<0.10		ug/L		0.5		505	Total/NA
Chloride	150		mg/L			250	300.0	Total/NA
Nitrate as N	1.3		mg/L		10		300.0	Total/NA
Nitrite as N	<0.25	F1	mg/L		1		300.0	Total/NA
Sulfate	24		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	84		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	^2	ug/L			100	200.8	Total/NA
Thallium	<1.0		ug/L		2		200.8	Total/NA
Zinc	21		ug/L			5000	200.8	Total/NA
Mercury	<0.10		ug/L		2		245.1	Total/NA
Total Dissolved Solids	410		mg/L			500	SM 2540C	Total/NA
Fluoride	0.058		mg/L		4	2	SM 4500 F C	Total/NA

Action Limit Summary

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

Job ID: 380-80485-1

Client Sample ID: TRAVEL BLANK

Lab Sample ID: 380-80485-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	RL	Method	Prep Type
1,2,3-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: 380-80485-1

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)
380-80485-1	Ka'amilo Wells	91	111	116
380-80485-1 MS	Ka'amilo Wells	90	114	117
380-80502-T-1-A DU	Duplicate	91	110	112
LCS 380-74122/23-A	Lab Control Sample	90	110	117
MB 380-74122/21-A	Method Blank	93	111	120
MRL 380-74122/22-A	Lab Control Sample	88	109	114

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)
380-79845-X-1-A DU	Duplicate	107
380-79849-V-1-E MS	Matrix Spike	108
380-80485-1	Ka'amilo Wells	99
380-80485-2	TRAVEL BLANK	89
380-79847-BJ-1-A MS	Matrix Spike	97
380-79848-BH-1-A DU	Duplicate	103
LCS 380-73772/29-A	Lab Control Sample	111
LCS 380-73822/29-A	Lab Control Sample	105
MBL 380-73772/4-A	Method Blank	95
MBL 380-73822/4-A	Method Blank	104
MRL 380-73772/2-A	Lab Control Sample	96
MRL 380-73772/3-A	Lab Control Sample	95
MRL 380-73822/2-A	Lab Control Sample	92
MRL 380-73822/3-A	Lab Control Sample	96

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)
380-80377-F-1-A MS	Matrix Spike	103
380-80377-G-1-A MS	Matrix Spike	91
380-80380-B-1-A MS	Matrix Spike	93
380-80380-C-1-A MS	Matrix Spike	98
380-80485-1	Ka'amilo Wells	99
MB 380-73786/4-A	Method Blank	100
MRL 380-73786/2-A	Lab Control Sample	96
MRL 380-73786/3-A	Lab Control Sample	107

Surrogate Legend

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Surrogate Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

TCX = Tetrachloro-m-xylene

Job ID: 380-80485-1

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

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MB 380-74122/21-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 74122

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
2,4'-DDE	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
2,4'-DDT	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
2,4-Dinitrotoluene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
2,6-Dinitrotoluene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
4,4'-DDD	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
4,4'-DDE	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
4,4'-DDT	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Acenaphthene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Acenaphthylene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Acetochlor	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Alachlor	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
alpha-BHC	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
alpha-Chlordane	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Anthracene	<0.020		0.020	ug/L		01/31/24 08:00	02/01/24 10:43	1
Atrazine	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Benz(a)anthracene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Benzo[a]pyrene	<0.020		0.020	ug/L		01/31/24 08:00	02/01/24 10:43	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		01/31/24 08:00	02/01/24 10:43	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		01/31/24 08:00	02/01/24 10:43	1
beta-BHC	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		01/31/24 08:00	02/01/24 10:43	1
Bromacil	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Butachlor	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Butylbenzylphthalate	<0.50		0.50	ug/L		01/31/24 08:00	02/01/24 10:43	1
Chlorobenzilate	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Chloroneb	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Chlorothalonil (Draconil, Bravo)	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Chlorpyrifos	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Chrysene	<0.020		0.020	ug/L		01/31/24 08:00	02/01/24 10:43	1
delta-BHC	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		01/31/24 08:00	02/01/24 10:43	1
Dibenz(a,h)anthracene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Diclorvos (DDVP)	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Dieldrin	<0.20		0.20	ug/L		01/31/24 08:00	02/01/24 10:43	1
Diethylphthalate	<0.50		0.50	ug/L		01/31/24 08:00	02/01/24 10:43	1
Dimethylphthalate	<0.50		0.50	ug/L		01/31/24 08:00	02/01/24 10:43	1
Di-n-butyl phthalate	<0.99		0.99	ug/L		01/31/24 08:00	02/01/24 10:43	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Endosulfan I (Alpha)	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Endosulfan II (Beta)	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Endosulfan sulfate	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Endrin	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Endrin aldehyde	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
EPTC	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Fluoranthene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Fluorene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MB 380-74122/21-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 74122

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	<0.040		0.040	ug/L		01/31/24 08:00	02/01/24 10:43	1
gamma-Chlordane	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Heptachlor	<0.040		0.040	ug/L		01/31/24 08:00	02/01/24 10:43	1
Heptachlor epoxide (isomer B)	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Hexachlorobenzene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Isophorone	<0.50		0.50	ug/L		01/31/24 08:00	02/01/24 10:43	1
Malathion	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Methoxychlor	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Metolachlor	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Molinate	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Naphthalene	<0.30		0.30	ug/L		01/31/24 08:00	02/01/24 10:43	1
Parathion	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Pendimethalin (Penoxaline)	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Phenanthrene	<0.040		0.040	ug/L		01/31/24 08:00	02/01/24 10:43	1
Propachlor	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Pyrene	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Simazine	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Terbacil	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Terbutylazine	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
Thiobencarb	<0.20		0.20	ug/L		01/31/24 08:00	02/01/24 10:43	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		01/31/24 08:00	02/01/24 10:43	1
trans-Nonachlor	<0.050		0.050	ug/L		01/31/24 08:00	02/01/24 10:43	1
Trifluralin	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
1-Methylnaphthalene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1
2-Methylnaphthalene	<0.099		0.099	ug/L		01/31/24 08:00	02/01/24 10:43	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	2.83	T J N	ug/L		2.37	124-18-5	01/31/24 08:00	02/01/24 10:43	1
Undecane	0.535	T J N	ug/L		2.66	1120-21-4	01/31/24 08:00	02/01/24 10:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	93		70 - 130	01/31/24 08:00	02/01/24 10:43	1
Perylene-d12	111		70 - 130	01/31/24 08:00	02/01/24 10:43	1
Triphenylphosphate	120		70 - 130	01/31/24 08:00	02/01/24 10:43	1

Lab Sample ID: LCS 380-74122/23-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.99	2.12		ug/L		107	70 - 130
2,4'-DDE	1.99	2.12		ug/L		107	70 - 130
2,4'-DDT	1.99	2.26		ug/L		114	70 - 130
2,4-Dinitrotoluene	1.99	1.77		ug/L		89	70 - 130
2,6-Dinitrotoluene	1.99	1.80		ug/L		91	70 - 130
4,4'-DDD	1.99	2.16		ug/L		109	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: LCS 380-74122/23-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDE	1.99	2.02		ug/L		101	70 - 130
4,4'-DDT	1.99	2.18		ug/L		109	70 - 130
Acenaphthene	1.99	1.71		ug/L		86	70 - 130
Acenaphthylene	1.99	1.75		ug/L		88	70 - 130
Acetochlor	1.99	1.66		ug/L		84	70 - 130
Alachlor	1.99	2.05		ug/L		103	70 - 130
alpha-BHC	1.99	1.66		ug/L		84	70 - 130
alpha-Chlordane	1.99	2.26		ug/L		114	70 - 130
Anthracene	1.99	1.89		ug/L		95	70 - 130
Atrazine	1.99	1.98		ug/L		99	70 - 130
Benz(a)anthracene	1.99	2.11		ug/L		106	70 - 130
Benzo[a]pyrene	1.99	2.22		ug/L		112	70 - 130
Benzo[b]fluoranthene	1.99	2.16		ug/L		108	70 - 130
Benzo[g,h,i]perylene	1.99	1.94		ug/L		97	70 - 130
Benzo[k]fluoranthene	1.99	2.27		ug/L		114	70 - 130
beta-BHC	1.99	1.81		ug/L		91	70 - 130
Bis(2-ethylhexyl) phthalate	1.99	2.13		ug/L		107	70 - 130
Bromacil	1.99	2.02		ug/L		101	70 - 130
Butachlor	1.99	2.22		ug/L		112	70 - 130
Butylbenzylphthalate	1.99	2.20		ug/L		111	70 - 130
Chlorobenzilate	1.99	2.22		ug/L		112	70 - 130
Chloroneb	1.99	1.83		ug/L		92	70 - 130
Chlorothalonil (Draconil, Bravo)	1.99	2.06		ug/L		104	70 - 130
Chlorpyrifos	1.99	2.22		ug/L		112	70 - 130
Chrysene	1.99	2.02		ug/L		102	70 - 130
delta-BHC	1.99	1.78		ug/L		90	70 - 130
Di(2-ethylhexyl)adipate	1.99	2.27		ug/L		114	70 - 130
Dibenz(a,h)anthracene	1.99	2.17		ug/L		109	70 - 130
Diclorvos (DDVP)	1.99	1.62		ug/L		81	70 - 130
Dieldrin	1.99	1.92		ug/L		96	70 - 130
Diethylphthalate	1.99	1.71		ug/L		86	70 - 130
Dimethylphthalate	1.99	1.82		ug/L		92	70 - 130
Di-n-butyl phthalate	3.98	4.33		ug/L		109	70 - 130
Di-n-octyl phthalate	1.99	1.80		ug/L		90	70 - 130
Endosulfan I (Alpha)	1.99	1.84		ug/L		92	70 - 130
Endosulfan II (Beta)	1.99	2.12		ug/L		106	70 - 130
Endosulfan sulfate	1.99	2.48		ug/L		125	70 - 130
Endrin	1.99	2.12		ug/L		107	70 - 130
Endrin aldehyde	1.99	2.06		ug/L		104	70 - 130
EPTC	1.99	2.06		ug/L		104	70 - 130
Fluoranthene	1.99	2.06		ug/L		104	70 - 130
Fluorene	1.99	1.83		ug/L		92	70 - 130
gamma-BHC (Lindane)	1.99	1.81		ug/L		91	70 - 130
gamma-Chlordane	1.99	2.31		ug/L		116	70 - 130
Heptachlor	1.99	1.83		ug/L		92	70 - 130
Heptachlor epoxide (isomer B)	1.99	2.21		ug/L		111	70 - 130
Hexachlorobenzene	1.99	1.92		ug/L		96	70 - 130
Hexachlorocyclopentadiene	1.99	1.99		ug/L		100	70 - 130
Indeno[1,2,3-cd]pyrene	1.99	2.10		ug/L		106	70 - 130

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: LCS 380-74122/23-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isophorone	1.99	1.64		ug/L		82	70 - 130
Malathion	1.99	2.24		ug/L		113	70 - 130
Methoxychlor	1.99	2.00		ug/L		101	70 - 130
Metolachlor	1.99	2.04		ug/L		103	70 - 130
Molinate	1.99	1.85		ug/L		93	70 - 130
Naphthalene	1.99	1.74		ug/L		88	70 - 130
Parathion	1.99	1.94		ug/L		98	70 - 130
Pendimethalin (Penoxaline)	1.99	2.13		ug/L		107	70 - 130
Phenanthrene	1.99	1.85		ug/L		93	70 - 130
Propachlor	1.99	1.80		ug/L		91	70 - 130
Pyrene	1.99	2.07		ug/L		104	70 - 130
Simazine	1.99	2.05		ug/L		103	70 - 130
Terbacil	1.99	2.01		ug/L		101	70 - 130
Terbutylazine	1.99	1.93		ug/L		97	70 - 130
Thiobencarb	1.99	1.95		ug/L		98	70 - 130
trans-Nonachlor	1.99	2.17		ug/L		109	70 - 130
Trifluralin	1.99	2.13		ug/L		107	70 - 130
1-Methylnaphthalene	1.99	1.82		ug/L		91	70 - 130
2-Methylnaphthalene	1.99	1.89		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	90		70 - 130
Perylene-d12	110		70 - 130
Triphenylphosphate	117		70 - 130

Lab Sample ID: MRL 380-74122/22-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0992	0.114		ug/L		115	50 - 150
2,4'-DDE	0.0992	0.102		ug/L		102	50 - 150
2,4'-DDT	0.0992	0.0899	J	ug/L		91	50 - 150
2,4-Dinitrotoluene	0.0992	0.0710	J	ug/L		72	50 - 150
2,6-Dinitrotoluene	0.0992	0.0762	J	ug/L		77	50 - 150
4,4'-DDD	0.0992	0.0945	J	ug/L		95	50 - 150
4,4'-DDE	0.0992	0.131		ug/L		132	50 - 150
4,4'-DDT	0.0992	0.119		ug/L		120	50 - 150
Acenaphthene	0.0992	0.0839	J	ug/L		85	50 - 150
Acenaphthylene	0.0992	0.0809	J	ug/L		82	50 - 150
Acetochlor	0.0496	0.0375	J	ug/L		76	50 - 150
Alachlor	0.0496	0.0489	J	ug/L		98	50 - 150
alpha-BHC	0.0992	0.0853	J	ug/L		86	50 - 150
alpha-Chlordane	0.0248	<0.029		ug/L		114	50 - 150
Anthracene	0.0198	<0.019		ug/L		93	50 - 150
Atrazine	0.0496	<0.048		ug/L		88	50 - 150
Benz(a)anthracene	0.0496	0.0446	J	ug/L		90	50 - 150
Benzo[a]pyrene	0.0198	0.0175	J	ug/L		88	50 - 150

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MRL 380-74122/22-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[b]fluoranthene	0.0198	0.0184	J	ug/L		93	50 - 150
Benzo[g,h,i]perylene	0.0496	0.0411	J	ug/L		83	50 - 150
Benzo[k]fluoranthene	0.0198	0.0199	J	ug/L		100	50 - 150
beta-BHC	0.0992	0.0920	J	ug/L		93	50 - 150
Bis(2-ethylhexyl) phthalate	0.595	0.779		ug/L		131	50 - 150
Bromacil	0.0992	0.105		ug/L		106	50 - 150
Butachlor	0.0496	0.0571		ug/L		115	50 - 150
Butylbenzylphthalate	0.149	0.152	J	ug/L		102	50 - 150
Chlorobenzilate	0.0992	0.105		ug/L		106	50 - 150
Chloroneb	0.0992	0.108		ug/L		109	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0992	0.158	^3+	ug/L		159	50 - 150
Chlorpyrifos	0.0496	0.0509		ug/L		103	50 - 150
Chrysene	0.0198	0.0193	J	ug/L		97	50 - 150
delta-BHC	0.0992	0.0984	J	ug/L		99	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.337	J	ug/L		113	50 - 150
Dibenz(a,h)anthracene	0.0496	0.0406	J	ug/L		82	50 - 150
Diclorvos (DDVP)	0.0496	0.0547		ug/L		110	50 - 150
Dieldrin	0.0992	0.100	J	ug/L		101	50 - 150
Diethylphthalate	0.149	0.137	J	ug/L		92	50 - 150
Dimethylphthalate	0.298	0.262	J	ug/L		88	50 - 150
Di-n-butyl phthalate	0.298	0.378	J	ug/L		127	49 - 243
Di-n-octyl phthalate	0.0992	0.116		ug/L		117	50 - 150
Endosulfan I (Alpha)	0.0992	0.0947	J	ug/L		95	50 - 150
Endosulfan II (Beta)	0.0992	0.115		ug/L		116	50 - 150
Endosulfan sulfate	0.0992	0.114		ug/L		115	50 - 150
Endrin	0.0992	0.106		ug/L		107	50 - 150
Endrin aldehyde	0.0992	0.154	^3+	ug/L		155	50 - 150
EPTC	0.0992	0.0945	J	ug/L		95	50 - 150
Fluoranthene	0.0496	0.0482	J	ug/L		97	50 - 150
Fluorene	0.0496	<0.050		ug/L		88	50 - 150
gamma-BHC (Lindane)	0.0397	0.0360	J	ug/L		91	50 - 150
gamma-Chlordane	0.0248	0.0291	J	ug/L		117	50 - 150
Heptachlor	0.0397	0.0370	J	ug/L		93	50 - 150
Heptachlor epoxide (isomer B)	0.0496	0.0515		ug/L		104	50 - 150
Hexachlorobenzene	0.0496	0.0473	J	ug/L		95	50 - 150
Hexachlorocyclopentadiene	0.0496	0.0440	J	ug/L		89	50 - 150
Indeno[1,2,3-cd]pyrene	0.0496	0.0410	J	ug/L		83	50 - 150
Isophorone	0.0992	0.0831	J	ug/L		84	50 - 150
Malathion	0.0992	0.100		ug/L		101	50 - 150
Methoxychlor	0.0992	0.107		ug/L		108	50 - 150
Metolachlor	0.0496	0.0530		ug/L		107	50 - 150
Molinate	0.0992	0.0923	J	ug/L		93	50 - 150
Naphthalene	0.0992	0.116	J	ug/L		117	50 - 150
Parathion	0.0992	0.122		ug/L		123	50 - 150
Pendimethalin (Penoxaline)	0.0992	0.0999		ug/L		101	50 - 150
Phenanthrene	0.0198	0.0198	J	ug/L		100	50 - 150
Propachlor	0.0496	0.0446	J	ug/L		90	50 - 150
Pyrene	0.0496	0.0478	J	ug/L		96	50 - 150
Simazine	0.0496	0.0417	J	ug/L		84	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MRL 380-74122/22-A
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Terbacil	0.0992	0.0995		ug/L		100	50 - 150
Terbutylazine	0.0992	0.0929	J	ug/L		94	50 - 150
Thiobencarb	0.0992	0.100	J	ug/L		101	50 - 150
trans-Nonachlor	0.0248	<0.026		ug/L		97	50 - 150
Trifluralin	0.0992	0.0836	J	ug/L		84	50 - 150
1-Methylnaphthalene	0.0992	0.0974	J	ug/L		98	50 - 150
2-Methylnaphthalene	0.0992	0.0963	J	ug/L		97	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	88		70 - 130
Perylene-d12	109		70 - 130
Triphenylphosphate	114		70 - 130

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	<0.099		1.97	2.06		ug/L		105	70 - 130
2,4'-DDE	<0.099		1.97	1.97		ug/L		100	70 - 130
2,4'-DDT	<0.099		1.97	2.07		ug/L		105	70 - 130
2,4-Dinitrotoluene	<0.099		1.97	1.96		ug/L		99	70 - 130
2,6-Dinitrotoluene	<0.099		1.97	1.93		ug/L		98	70 - 130
4,4'-DDD	<0.099		1.97	2.10		ug/L		107	70 - 130
4,4'-DDE	<0.099		1.97	1.79		ug/L		91	70 - 130
4,4'-DDT	<0.099		1.97	1.92		ug/L		97	70 - 130
Acenaphthene	<0.099		1.97	1.75		ug/L		88	70 - 130
Acenaphthylene	<0.099		1.97	1.79		ug/L		91	70 - 130
Acetochlor	<0.099		1.97	1.75		ug/L		89	70 - 130
Alachlor	<0.049		1.97	2.09		ug/L		106	70 - 130
alpha-BHC	<0.099		1.97	1.77		ug/L		90	70 - 130
alpha-Chlordane	<0.049		1.97	2.27		ug/L		115	70 - 130
Anthracene	<0.020		1.97	1.90		ug/L		96	70 - 130
Atrazine	<0.049		1.97	2.11		ug/L		107	70 - 130
Benz(a)anthracene	<0.049		1.97	2.03		ug/L		103	70 - 130
Benzo[a]pyrene	<0.020		1.97	2.24		ug/L		114	70 - 130
Benzo[b]fluoranthene	<0.020		1.97	2.30		ug/L		117	70 - 130
Benzo[g,h,i]perylene	<0.049		1.97	2.04		ug/L		103	70 - 130
Benzo[k]fluoranthene	<0.020		1.97	2.30		ug/L		116	70 - 130
beta-BHC	<0.099		1.97	1.82		ug/L		92	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.97	1.96		ug/L		99	70 - 130
Bromacil	<0.099		1.97	2.44		ug/L		124	70 - 130
Butachlor	<0.049		1.97	2.30		ug/L		117	70 - 130
Butylbenzylphthalate	<0.49		1.97	2.24		ug/L		113	70 - 130
Chlorobenzilate	<0.099		1.97	2.27		ug/L		115	70 - 130
Chloroneb	<0.099		1.97	1.89		ug/L		96	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.099	^3+	1.97	2.11		ug/L		107	70 - 130
Chlorpyrifos	<0.049		1.97	2.15		ug/L		109	70 - 130

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec
	Result			Result	Qualifier				Limits
Chrysene	<0.020		1.97	2.12		ug/L		108	70 - 130
delta-BHC	<0.099		1.97	1.77		ug/L		90	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.97	1.88		ug/L		95	70 - 130
Dibenz(a,h)anthracene	<0.049		1.97	2.25		ug/L		114	70 - 130
Diclorvos (DDVP)	<0.049		1.97	1.70		ug/L		86	70 - 130
Dieldrin	<0.20		1.97	2.01		ug/L		100	70 - 130
Diethylphthalate	<0.49		1.97	1.89		ug/L		96	70 - 130
Dimethylphthalate	<0.49		1.97	1.93		ug/L		98	70 - 130
Di-n-butyl phthalate	<0.99		3.95	4.42		ug/L		112	70 - 130
Di-n-octyl phthalate	<0.099		1.97	1.64		ug/L		83	70 - 130
Endosulfan I (Alpha)	<0.099		1.97	1.87		ug/L		95	70 - 130
Endosulfan II (Beta)	<0.099		1.97	2.08		ug/L		105	70 - 130
Endosulfan sulfate	<0.099		1.97	2.44		ug/L		124	70 - 130
Endrin	<0.099		1.97	2.15		ug/L		109	70 - 130
Endrin aldehyde	<0.099	^3+	1.97	1.84		ug/L		93	70 - 130
EPTC	<0.099		1.97	2.18		ug/L		110	70 - 130
Fluoranthene	<0.099		1.97	2.02		ug/L		102	70 - 130
Fluorene	<0.049		1.97	1.88		ug/L		95	70 - 130
gamma-BHC (Lindane)	<0.039		1.97	1.88		ug/L		95	70 - 130
gamma-Chlordane	<0.049		1.97	2.32		ug/L		117	70 - 130
Heptachlor	<0.039		1.97	1.88		ug/L		95	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.97	2.27		ug/L		115	70 - 130
Hexachlorobenzene	<0.049		1.97	1.99		ug/L		101	70 - 130
Hexachlorocyclopentadiene	<0.049		1.97	2.14		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.97	2.22		ug/L		112	70 - 130
Isophorone	<0.49		1.97	1.67		ug/L		85	70 - 130
Malathion	<0.099		1.97	2.35		ug/L		119	70 - 130
Methoxychlor	<0.099		1.97	2.33		ug/L		118	70 - 130
Metolachlor	<0.049		1.97	2.19		ug/L		111	70 - 130
Molinate	<0.099		1.97	1.97		ug/L		100	70 - 130
Naphthalene	<0.30		1.97	1.77		ug/L		88	70 - 130
Parathion	<0.099		1.97	1.98		ug/L		100	70 - 130
Pendimethalin (Penoxaline)	<0.099		1.97	2.18		ug/L		110	70 - 130
Phenanthrene	<0.039		1.97	1.87		ug/L		95	70 - 130
Propachlor	<0.049		1.97	1.93		ug/L		98	70 - 130
Pyrene	<0.049		1.97	2.06		ug/L		105	70 - 130
Simazine	<0.049		1.97	2.20		ug/L		111	70 - 130
Terbacil	<0.099		1.97	2.18		ug/L		110	70 - 130
Terbutylazine	<0.099		1.97	2.05		ug/L		104	70 - 130
Thiobencarb	<0.20		1.97	1.93		ug/L		98	70 - 130
trans-Nonachlor	<0.049		1.97	2.11		ug/L		107	70 - 130
Trifluralin	<0.099		1.97	2.37		ug/L		120	70 - 130
1-Methylnaphthalene	<0.099		1.97	1.87		ug/L		95	70 - 130
2-Methylnaphthalene	<0.099		1.97	1.95		ug/L		99	70 - 130

Surrogate	MS	Qualifier	Limits
	%Recovery		
2-Nitro-m-xylene	90		70 - 130
Perylene-d12	114		70 - 130

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA
Prep Batch: 74122

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
Triphenylphosphate	117		70 - 130

Lab Sample ID: 380-80502-T-1-A DU
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	Limit
			Result	Qualifier				
2,4'-DDD	<0.098		<0.098		ug/L		NC	20
2,4'-DDE	<0.098		<0.098		ug/L		NC	20
2,4'-DDT	<0.098		<0.098		ug/L		NC	20
2,4-Dinitrotoluene	<0.098		<0.098		ug/L		NC	20
2,6-Dinitrotoluene	<0.098		<0.098		ug/L		NC	20
4,4'-DDD	<0.098		<0.098		ug/L		NC	20
4,4'-DDE	<0.098		<0.098		ug/L		NC	20
4,4'-DDT	<0.098		<0.098		ug/L		NC	20
Acenaphthene	<0.098		<0.098		ug/L		NC	20
Acenaphthylene	<0.098		<0.098		ug/L		NC	20
Acetochlor	<0.098		<0.098		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.098		<0.098		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.020		<0.020		ug/L		NC	20
Atrazine	<0.049		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
beta-BHC	<0.098		<0.098		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59		<0.59		ug/L		NC	20
Bromacil	<0.098		<0.098		ug/L		NC	20
Butachlor	<0.049		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.098		<0.098		ug/L		NC	20
Chloroneb	<0.098		<0.098		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.098	^3+	<0.098		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.020		<0.020		ug/L		NC	20
delta-BHC	<0.098		<0.098		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.59		<0.59		ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.049		<0.049		ug/L		NC	20
Dieldrin	<0.20		<0.20		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.98		<0.98		ug/L		NC	20
Di-n-octyl phthalate	<0.098		<0.098		ug/L		NC	20
Endosulfan I (Alpha)	<0.098		<0.098		ug/L		NC	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-80502-T-1-A DU
Matrix: Water
Analysis Batch: 74359

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 74122

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Endosulfan II (Beta)	<0.098		<0.098		ug/L		NC	20
Endosulfan sulfate	<0.098		<0.098		ug/L		NC	20
Endrin	<0.098		<0.098		ug/L		NC	20
Endrin aldehyde	<0.098	^3+	<0.098		ug/L		NC	20
EPTC	<0.098		<0.098		ug/L		NC	20
Fluoranthene	<0.098		<0.098		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-BHC (Lindane)	<0.039		<0.039		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20
Heptachlor	<0.039		<0.039		ug/L		NC	20
Heptachlor epoxide (isomer B)	<0.049		<0.049		ug/L		NC	20
Hexachlorobenzene	<0.049		<0.049		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.049		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.049		ug/L		NC	20
Isophorone	<0.49		<0.49		ug/L		NC	20
Malathion	<0.098		<0.098		ug/L		NC	20
Methoxychlor	<0.098		<0.098		ug/L		NC	20
Metolachlor	<0.049		<0.049		ug/L		NC	20
Molinate	<0.098		<0.098		ug/L		NC	20
Naphthalene	<0.29		<0.29		ug/L		NC	20
Parathion	<0.098		<0.098		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.098		<0.098		ug/L		NC	20
Phenanthrene	<0.039		<0.039		ug/L		NC	20
Propachlor	<0.049		<0.049		ug/L		NC	20
Pyrene	<0.049		<0.049		ug/L		NC	20
Simazine	<0.049		<0.049		ug/L		NC	20
Terbacil	<0.098		<0.098		ug/L		NC	20
Terbutylazine	<0.098		<0.098		ug/L		NC	20
Thiobencarb	<0.20		<0.20		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.20		<0.20		ug/L		NC	20
trans-Nonachlor	<0.049		<0.049		ug/L		NC	20
Trifluralin	<0.098		<0.098		ug/L		NC	20
1-Methylnaphthalene	<0.098		<0.098		ug/L		NC	20
2-Methylnaphthalene	<0.098		<0.098		ug/L		NC	20

Surrogate	DU	DU	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	91		70 - 130
Perylene-d12	110		70 - 130
Triphenylphosphate	112		70 - 130

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

Lab Sample ID: MBL 380-73772/4-A
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73772

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2,3-Trichloropropane	<0.0040		0.020	ug/L		01/29/24 14:30	01/29/24 19:06	1
1,2-Dibromo-3-Chloropropane	<0.0020		0.010	ug/L		01/29/24 14:30	01/29/24 19:06	1

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MBL 380-73772/4-A
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73772

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	<0.0040		0.010	ug/L		01/29/24 14:30	01/29/24 19:06	1
Surrogate	%Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	95		60 - 140			01/29/24 14:30	01/29/24 19:06	1

Lab Sample ID: LCS 380-73772/29-A
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73772

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.200	0.237		ug/L		118	70 - 130
1,2-Dibromo-3-Chloropropane	0.200	0.212		ug/L		106	70 - 130
1,2-Dibromoethane	0.200	0.234		ug/L		117	70 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dibromopropane (Surr)	111		60 - 140				

Lab Sample ID: MRL 380-73772/2-A
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73772

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0200	0.0249		ug/L		125	60 - 140
Surrogate	%Recovery	MRL Qualifier	Limits				
1,2-Dibromopropane (Surr)	96		60 - 140				

Lab Sample ID: MRL 380-73772/3-A
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73772

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0494		ug/L		99	60 - 140
1,2-Dibromo-3-Chloropropane	0.0100	0.0101		ug/L		101	60 - 140
1,2-Dibromoethane	0.0100	0.0116		ug/L		116	60 - 140
Surrogate	%Recovery	MRL Qualifier	Limits				
1,2-Dibromopropane (Surr)	95		60 - 140				

Lab Sample ID: 380-79847-BJ-1-A MS
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73772

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	<0.020		1.25	1.30		ug/L		104	65 - 135
1,2-Dibromo-3-Chloropropane	<0.010		0.250	0.261		ug/L		104	65 - 135
1,2-Dibromoethane	<0.010		0.250	0.276		ug/L		111	65 - 135

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-79847-BJ-1-A MS
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73772

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

Lab Sample ID: 380-79848-BH-1-A DU
Matrix: Water
Analysis Batch: 73931

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 73772

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>DU DU</i>		<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>Limit</i>
			<i>Result</i>	<i>Qualifier</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>DU</i>	<i>DU</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	103		60 - 140

Lab Sample ID: MBL 380-73822/4-A
Matrix: Water
Analysis Batch: 73960

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73822

<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>
						<i>Time</i>	<i>Time</i>	<i>Time</i>	<i>Time</i>	
1,2,3-Trichloropropane	<0.0040		0.020	ug/L		01/29/24 16:00	01/29/24 19:53	01/29/24 19:53	1	
1,2-Dibromo-3-Chloropropane	<0.0020		0.010	ug/L		01/29/24 16:00	01/29/24 19:53	01/29/24 19:53	1	
1,2-Dibromoethane	<0.0040		0.010	ug/L		01/29/24 16:00	01/29/24 19:53	01/29/24 19:53	1	

	<i>MBL</i>	<i>MBL</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Time</i>	<i>Time</i>	
1,2-Dibromopropane (Surr)	104		60 - 140	01/29/24 16:00	01/29/24 19:53	1

Lab Sample ID: LCS 380-73822/29-A
Matrix: Water
Analysis Batch: 73960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73822

<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>	
							<i>Min</i>	<i>Max</i>
1,2,3-Trichloropropane	0.200	0.212		ug/L		106	70 - 130	
1,2-Dibromo-3-Chloropropane	0.200	0.195		ug/L		98	70 - 130	
1,2-Dibromoethane	0.200	0.193		ug/L		96	70 - 130	

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

Lab Sample ID: MRL 380-73822/2-A
Matrix: Water
Analysis Batch: 73960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73822

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	
							<i>Min</i>	<i>Max</i>
1,2,3-Trichloropropane	0.0200	0.0212		ug/L		106	60 - 140	

	<i>MRL</i>	<i>MRL</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	92		60 - 140

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MRL 380-73822/3-A
Matrix: Water
Analysis Batch: 73960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73822

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0508		ug/L		102	60 - 140
1,2-Dibromo-3-Chloropropane	0.0100	0.0104		ug/L		104	60 - 140
1,2-Dibromoethane	0.0100	0.00767	J	ug/L		77	60 - 140
		MRL	MRL				
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dibromopropane (Surr)	96		60 - 140				

Lab Sample ID: 380-79849-V-1-E MS
Matrix: Water
Analysis Batch: 73960

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73822

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	<0.020		1.26	1.39		ug/L		110	65 - 135
1,2-Dibromo-3-Chloropropane	<0.0098		0.251	0.276		ug/L		110	65 - 135
1,2-Dibromoethane	<0.0098		0.251	0.246		ug/L		98	65 - 135
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dibromopropane (Surr)	108		60 - 140						

Lab Sample ID: 380-79845-X-1-A DU
Matrix: Water
Analysis Batch: 73960

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 73822

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)	107		60 - 140					

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Lab Sample ID: MB 380-73786/4-A
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73786

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 16:08	1
Dieldrin	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 16:08	1
Toxaphene	<0.50		0.50	ug/L		01/29/24 13:31	01/29/24 16:08	1
Alachlor	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
Chlordane (n.o.s.)	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
Endrin	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 16:08	1
Heptachlor	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 16:08	1
Heptachlor epoxide	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 16:08	1
gamma-BHC (Lindane)	<0.010		0.010	ug/L		01/29/24 13:31	01/29/24 16:08	1
Methoxychlor	<0.050		0.050	ug/L		01/29/24 13:31	01/29/24 16:08	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MB 380-73786/4-A
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 73786

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
PCB-1016	<0.070		0.070	ug/L		01/29/24 13:31	01/29/24 16:08	1
PCB-1221	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
PCB-1232	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
PCB-1242	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
PCB-1248	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
PCB-1254	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1
PCB-1260	<0.070		0.070	ug/L		01/29/24 13:31	01/29/24 16:08	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		01/29/24 13:31	01/29/24 16:08	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Tetrachloro-m-xylene	100		70 - 130	01/29/24 13:31	01/29/24 16:08	1

Lab Sample ID: MRL 380-73786/2-A
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aldrin	0.0100	0.00838	J	ug/L		84	50 - 150
Dieldrin	0.0100	0.00898	J	ug/L		90	50 - 150
Alachlor	0.100	0.0910	J	ug/L		91	50 - 150
Endrin	0.0100	0.00792	J	ug/L		79	50 - 150
Heptachlor	0.0100	0.00854	J	ug/L		85	50 - 150
Heptachlor epoxide	0.0100	0.00876	J	ug/L		88	50 - 150
gamma-BHC (Lindane)	0.0100	0.0113		ug/L		113	50 - 150
Methoxychlor	0.0500	0.0485	J	ug/L		97	50 - 150

Surrogate	MRL MRL		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	96		70 - 130

Lab Sample ID: MRL 380-73786/3-A
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Chlordane (n.o.s.)	0.100	0.111		ug/L		111	50 - 150

Surrogate	MRL MRL		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	107		70 - 130

Lab Sample ID: 380-80377-F-1-A MS
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
Aldrin	<0.010		0.0199	0.0182		ug/L		91	65 - 135
Dieldrin	<0.010		0.0199	0.0192		ug/L		96	65 - 135
Alachlor	<0.10		0.199	0.198		ug/L		99	65 - 135
Endrin	<0.010		0.0199	0.0191		ug/L		96	65 - 135

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-80377-F-1-A MS
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Heptachlor	<0.010		0.0199	0.0199		ug/L		100	65 - 135
Heptachlor epoxide	<0.010		0.0199	0.0192		ug/L		96	65 - 135
gamma-BHC (Lindane)	<0.010		0.0199	0.0219		ug/L		110	65 - 135
Methoxychlor	<0.050		0.0994	0.102		ug/L		102	65 - 135
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
<i>Tetrachloro-m-xylene</i>	103		70 - 130						

Lab Sample ID: 380-80377-G-1-A MS
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Chlordane (n.o.s.)	<0.10		0.487	0.464		ug/L		95	65 - 135
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
<i>Tetrachloro-m-xylene</i>	91		70 - 130						

Lab Sample ID: 380-80380-B-1-A MS
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Aldrin	<0.0098		0.100	0.0974		ug/L		97	65 - 135
Dieldrin	<0.0098		0.100	0.105		ug/L		105	65 - 135
Alachlor	<0.098		1.00	1.04		ug/L		104	65 - 135
Endrin	<0.0098		0.100	0.105		ug/L		105	65 - 135
Heptachlor	<0.0098		0.100	0.105		ug/L		105	65 - 135
Heptachlor epoxide	<0.0098		0.100	0.105		ug/L		105	65 - 135
gamma-BHC (Lindane)	<0.0098		0.100	0.119		ug/L		119	65 - 135
Methoxychlor	<0.049		0.500	0.538		ug/L		108	65 - 135
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
<i>Tetrachloro-m-xylene</i>	93		70 - 130						

Lab Sample ID: 380-80380-C-1-A MS
Matrix: Water
Analysis Batch: 74298

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 73786

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Chlordane (n.o.s.)	<0.098		0.496	0.508		ug/L		103	65 - 135
		MS	MS						
Surrogate	%Recovery	Qualifier	Limits						
<i>Tetrachloro-m-xylene</i>	98		70 - 130						

QC Sample Results

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

Job ID: 380-80485-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-73774/53
Matrix: Water
Analysis Batch: 73774

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			01/26/24 20:34	1
Nitrite as N	<0.050		0.050	mg/L			01/26/24 20:34	1

Lab Sample ID: LCS 380-73774/56
Matrix: Water
Analysis Batch: 73774

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	2.51		mg/L		100	90 - 110
Nitrite as N	1.00	0.966		mg/L		97	90 - 110

Lab Sample ID: LCSD 380-73774/57
Matrix: Water
Analysis Batch: 73774

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	2.58		mg/L		103	90 - 110	3	20
Nitrite as N	1.00	0.979		mg/L		98	90 - 110	1	20

Lab Sample ID: MRL 380-73774/54
Matrix: Water
Analysis Batch: 73774

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.0125	0.0115	J	mg/L		92	50 - 150
Nitrite as N	0.0125	0.0128	J	mg/L		103	50 - 150

Lab Sample ID: MRL 380-73774/55
Matrix: Water
Analysis Batch: 73774

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	0.0468	J	mg/L		94	50 - 150
Nitrite as N	0.0500	0.0509		mg/L		102	50 - 150

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 73774

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	1.3		6.25	7.67		mg/L		102	80 - 120
Nitrite as N	<0.25	F1	2.50	2.02		mg/L		81	80 - 120

Lab Sample ID: 380-80485-1 MSD
Matrix: Water
Analysis Batch: 73774

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	1.3		6.25	7.49		mg/L		100	80 - 120	2	20
Nitrite as N	<0.25	F1	2.50	1.98	F1	mg/L		79	80 - 120	2	20

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QC Sample Results

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

Job ID: 380-80485-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-73775/53
Matrix: Water
Analysis Batch: 73775

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			01/26/24 20:34	1
Sulfate	<0.25		0.25	mg/L			01/26/24 20:34	1

Lab Sample ID: LCS 380-73775/56
Matrix: Water
Analysis Batch: 73775

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	26.0		mg/L		104	90 - 110
Sulfate	50.0	51.1		mg/L		102	90 - 110

Lab Sample ID: LCSD 380-73775/57
Matrix: Water
Analysis Batch: 73775

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.0	26.6		mg/L		107	90 - 110	3	20
Sulfate	50.0	52.8		mg/L		106	90 - 110	3	20

Lab Sample ID: MRL 380-73775/54
Matrix: Water
Analysis Batch: 73775

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	0.133	J	mg/L		107	50 - 150
Sulfate	0.250	0.255		mg/L		102	50 - 150

Lab Sample ID: MRL 380-73775/55
Matrix: Water
Analysis Batch: 73775

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	0.460	J	mg/L		92	50 - 150
Sulfate	1.00	0.952		mg/L		95	50 - 150

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 73775

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	150		62.5	203		mg/L		86	80 - 120
Sulfate	24		125	157		mg/L		106	80 - 120

Lab Sample ID: 380-80485-1 MSD
Matrix: Water
Analysis Batch: 73775

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	150		62.5	202		mg/L		84	80 - 120	1	20
Sulfate	24		125	152		mg/L		102	80 - 120	3	20

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QC Sample Results

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

Job ID: 380-80485-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-73875/5
Matrix: Water
Analysis Batch: 73875

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			01/29/24 19:37	1

Lab Sample ID: LCS 380-73875/6
Matrix: Water
Analysis Batch: 73875

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	94.8		ug/L		95	90 - 110

Lab Sample ID: LCSD 380-73875/7
Matrix: Water
Analysis Batch: 73875

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	96.5		ug/L		97	90 - 110	2	10

Lab Sample ID: MRL 380-73875/4
Matrix: Water
Analysis Batch: 73875

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	4.29	J	ug/L		86	75 - 125

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 73875

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	340	F1	50.0	419	E 4	ug/L		151	80 - 120

Lab Sample ID: 380-80485-1 MSD
Matrix: Water
Analysis Batch: 73875

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	340	F1	50.0	389	4	ug/L		92	80 - 120	7	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 380-73870/86
Matrix: Water
Analysis Batch: 73870

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<1.0		1.0	mg/L			01/29/24 18:50	1
Magnesium	<0.10		0.10	mg/L			01/29/24 18:50	1
Potassium	<1.0		1.0	mg/L			01/29/24 18:50	1
Sodium	<1.0		1.0	mg/L			01/29/24 18:50	1

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: LCS 380-73870/88
Matrix: Water
Analysis Batch: 73870

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	54.1		mg/L		108	85 - 115
Magnesium	20.0	21.1		mg/L		106	85 - 115
Potassium	20.0	21.2		mg/L		106	85 - 115
Sodium	50.0	52.9		mg/L		106	85 - 115

Lab Sample ID: LCSD 380-73870/89
Matrix: Water
Analysis Batch: 73870

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	54.1		mg/L		108	85 - 115	0	20
Magnesium	20.0	21.2		mg/L		106	85 - 115	0	20
Potassium	20.0	21.2		mg/L		106	85 - 115	0	20
Sodium	50.0	52.7		mg/L		105	85 - 115	0	20

Lab Sample ID: LLCS 380-73870/87
Matrix: Water
Analysis Batch: 73870

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	1.00	1.03		mg/L		103	50 - 150
Magnesium	0.100	0.0960	J	mg/L		96	50 - 150
Potassium	1.00	0.616	J	mg/L		62	50 - 150
Sodium	1.00	1.12		mg/L		112	50 - 150

Lab Sample ID: 380-80428-B-1 MS
Matrix: Water
Analysis Batch: 73870

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	24		50.0	72.6		mg/L		97	70 - 130
Magnesium	13		20.0	32.1		mg/L		97	70 - 130
Potassium	2.3		20.0	23.9		mg/L		108	70 - 130
Sodium	120		50.0	162		mg/L		82	70 - 130

Lab Sample ID: 380-80428-B-1 MSD
Matrix: Water
Analysis Batch: 73870

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	24		50.0	73.0		mg/L		98	70 - 130	0	20
Magnesium	13		20.0	32.2		mg/L		97	70 - 130	0	20
Potassium	2.3		20.0	24.0		mg/L		108	70 - 130	0	20
Sodium	120		50.0	162		mg/L		82	70 - 130	0	20

QC Sample Results

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

Job ID: 380-80485-1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 380-73926/56
Matrix: Water
Analysis Batch: 73926

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L			01/29/24 14:01	1
Arsenic	<1.0		1.0	ug/L			01/29/24 14:01	1
Beryllium	<1.0		1.0	ug/L			01/29/24 14:01	1
Cadmium	<0.50		0.50	ug/L			01/29/24 14:01	1
Chromium	<1.0		1.0	ug/L			01/29/24 14:01	1
Copper	<2.0		2.0	ug/L			01/29/24 14:01	1
Lead	<0.50		0.50	ug/L			01/29/24 14:01	1
Nickel	<5.0		5.0	ug/L			01/29/24 14:01	1
Selenium	<5.0		5.0	ug/L			01/29/24 14:01	1
Silver	<0.50		0.50	ug/L			01/29/24 14:01	1
Thallium	<1.0		1.0	ug/L			01/29/24 14:01	1
Zinc	<20		20	ug/L			01/29/24 14:01	1

Lab Sample ID: LCS 380-73926/58
Matrix: Water
Analysis Batch: 73926

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	48.9		ug/L		98	85 - 115
Arsenic	50.0	50.0		ug/L		100	85 - 115
Beryllium	25.0	24.0		ug/L		96	85 - 115
Cadmium	25.0	25.4		ug/L		101	85 - 115
Chromium	50.0	52.7		ug/L		105	85 - 115
Copper	50.0	54.2		ug/L		108	85 - 115
Lead	50.0	52.6		ug/L		105	85 - 115
Nickel	50.0	52.7		ug/L		105	85 - 115
Selenium	50.0	52.7		ug/L		105	85 - 115
Silver	25.0	25.7		ug/L		103	85 - 115
Thallium	50.0	51.8		ug/L		104	85 - 115
Zinc	50.0	50.1		ug/L		100	85 - 115

Lab Sample ID: LCSD 380-73926/59
Matrix: Water
Analysis Batch: 73926

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	47.6		ug/L		95	85 - 115	3	20
Arsenic	50.0	48.8		ug/L		98	85 - 115	2	20
Beryllium	25.0	23.9		ug/L		96	85 - 115	1	20
Cadmium	25.0	24.6		ug/L		99	85 - 115	3	20
Chromium	50.0	51.9		ug/L		104	85 - 115	2	20
Copper	50.0	52.8		ug/L		106	85 - 115	3	20
Lead	50.0	50.7		ug/L		101	85 - 115	4	20
Nickel	50.0	50.1		ug/L		100	85 - 115	5	20
Selenium	50.0	51.5		ug/L		103	85 - 115	2	20
Silver	25.0	25.2		ug/L		101	85 - 115	2	20
Thallium	50.0	51.0		ug/L		102	85 - 115	2	20
Zinc	50.0	48.5		ug/L		97	85 - 115	3	20

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QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: LLCS 380-73926/57
Matrix: Water
Analysis Batch: 73926

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	1.09		ug/L		109	50 - 150
Arsenic	1.00	1.01		ug/L		101	50 - 150
Beryllium	1.00	1.04		ug/L		104	50 - 150
Cadmium	0.500	0.543		ug/L		109	50 - 150
Chromium	1.00	1.26		ug/L		126	50 - 150
Copper	2.00	2.34		ug/L		117	50 - 150
Lead	0.500	0.565		ug/L		113	50 - 150
Nickel	5.00	5.61		ug/L		112	50 - 150
Selenium	5.00	5.84		ug/L		117	50 - 150
Silver	0.500	0.469	J	ug/L		94	50 - 150
Thallium	1.00	1.12		ug/L		112	50 - 150
Zinc	20.0	22.1		ug/L		111	50 - 150

Lab Sample ID: 380-80442-B-1 MS
Matrix: Water
Analysis Batch: 73926

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	52.8		ug/L		106	70 - 130
Arsenic	4.0		50.0	66.1		ug/L		124	70 - 130
Beryllium	<1.0		25.0	26.3		ug/L		105	70 - 130
Cadmium	<0.50		25.0	25.5		ug/L		102	70 - 130
Chromium	<1.0		50.0	54.4		ug/L		107	70 - 130
Copper	<2.0		50.0	52.9		ug/L		104	70 - 130
Lead	<0.50		50.0	50.2		ug/L		100	70 - 130
Nickel	<5.0		50.0	49.2		ug/L		97	70 - 130
Selenium	<5.0		50.0	64.1		ug/L		123	70 - 130
Silver	<0.50		25.0	23.7		ug/L		95	70 - 130
Thallium	<1.0		50.0	50.8		ug/L		102	70 - 130
Zinc	<20		50.0	62.0		ug/L		103	70 - 130

Lab Sample ID: 380-80442-B-1 MSD
Matrix: Water
Analysis Batch: 73926

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	50.8		ug/L		102	70 - 130	4	20
Arsenic	4.0		50.0	63.2		ug/L		118	70 - 130	5	20
Beryllium	<1.0		25.0	25.2		ug/L		101	70 - 130	4	20
Cadmium	<0.50		25.0	24.5		ug/L		98	70 - 130	4	20
Chromium	<1.0		50.0	53.3		ug/L		105	70 - 130	2	20
Copper	<2.0		50.0	51.7		ug/L		101	70 - 130	2	20
Lead	<0.50		50.0	48.5		ug/L		97	70 - 130	3	20
Nickel	<5.0		50.0	47.3		ug/L		93	70 - 130	4	20
Selenium	<5.0		50.0	60.7		ug/L		116	70 - 130	5	20
Silver	<0.50		25.0	22.7		ug/L		91	70 - 130	4	20
Thallium	<1.0		50.0	49.1		ug/L		98	70 - 130	3	20
Zinc	<20		50.0	60.0		ug/L		99	70 - 130	3	20

QC Sample Results

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

Job ID: 380-80485-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 810-87797/1-A
Matrix: Water
Analysis Batch: 87851

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87797

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		02/06/24 12:26	02/06/24 16:52	1

Lab Sample ID: LCS 810-87797/3-A
Matrix: Water
Analysis Batch: 87851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	1.02		ug/L		102	85 - 115

Lab Sample ID: LLCS 810-87797/2-A
Matrix: Water
Analysis Batch: 87851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87797

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.100	<0.086		ug/L		57	50 - 150

Lab Sample ID: 810-92103-M-1-B MS
Matrix: Water
Analysis Batch: 87851

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 87797

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.10		1.00	0.961		ug/L		96	70 - 130

Lab Sample ID: 810-92103-M-1-C MSD
Matrix: Water
Analysis Batch: 87851

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 87797

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	<0.10		1.00	0.945		ug/L		95	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 380-74371/1
Matrix: Water
Analysis Batch: 74371

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			01/31/24 18:42	1
Bicarbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			01/31/24 18:42	1
Carbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			01/31/24 18:42	1

Lab Sample ID: LCS 380-74371/3
Matrix: Water
Analysis Batch: 74371

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	97.3		mg/L		97	90 - 110

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 380-74371/18
Matrix: Water
Analysis Batch: 74371

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	98.3		mg/L		98	90 - 110	1	20

Lab Sample ID: LLCS 380-74371/4
Matrix: Water
Analysis Batch: 74371

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	20.0	18.8		mg/L		94	90 - 110		

Lab Sample ID: MRL 380-74371/2
Matrix: Water
Analysis Batch: 74371

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	2.00	1.66	J	mg/L		83	50 - 150		

Lab Sample ID: 380-79846-Y-1 MS
Matrix: Water
Analysis Batch: 74371

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	14		100	112		mg/L		98	80 - 120		

Lab Sample ID: 380-79846-Y-1 MSD
Matrix: Water
Analysis Batch: 74371

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	14		100	111		mg/L		97	80 - 120	1	20

Lab Sample ID: 380-79846-Y-1 DU
Matrix: Water
Analysis Batch: 74371

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	14		100	14.0		mg/L				1	20
Bicarbonate Alkalinity as CaCO3	14		100	14.0		mg/L				1	20
Carbonate Alkalinity as CaCO3	<2.0		100	<2.0		mg/L				NC	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 380-74374/2
Matrix: Water
Analysis Batch: 74374

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<2.0		2.0	umhos/cm			01/31/24 18:42	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: LCS 380-74374/4
Matrix: Water
Analysis Batch: 74374

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

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

Lab Sample ID: LCSD 380-74374/16
Matrix: Water
Analysis Batch: 74374

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Specific Conductance	1000	996		umhos/cm		100	90 - 110	1	10

Lab Sample ID: MRL 380-74374/3
Matrix: Water
Analysis Batch: 74374

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	2.00	2.10		umhos/cm		105	50 - 150

Lab Sample ID: 380-79846-Y-1 DU
Matrix: Water
Analysis Batch: 74374

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	66		65.6		umhos/cm		0.5	20

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

Lab Sample ID: MB 380-73819/1
Matrix: Water
Analysis Batch: 73819

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	mg/L			01/29/24 14:32	1

Lab Sample ID: HLCS 380-73819/5
Matrix: Water
Analysis Batch: 73819

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

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	700	696		mg/L		99	80 - 114

Lab Sample ID: LCS 380-73819/4
Matrix: Water
Analysis Batch: 73819

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	175	166		mg/L		95	80 - 114

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: MRL 380-73819/2
Matrix: Water
Analysis Batch: 73819

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 380-73819/3
Matrix: Water
Analysis Batch: 73819

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	10.0	7.00	J	mg/L		70	50 - 150

Lab Sample ID: 380-80485-1 DU
Matrix: Water
Analysis Batch: 73819

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	410		416		mg/L		1	10

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-74757/40
Matrix: Water
Analysis Batch: 74757

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			02/02/24 13:44	1

Lab Sample ID: MB 380-74757/6
Matrix: Water
Analysis Batch: 74757

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			02/02/24 11:04	1

Lab Sample ID: LCS 380-74757/42
Matrix: Water
Analysis Batch: 74757

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	1.03		mg/L		103	90 - 110

Lab Sample ID: LCSD 380-74757/43
Matrix: Water
Analysis Batch: 74757

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	1.03		mg/L		103	90 - 110	1	10

QC Sample Results

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

Job ID: 380-80485-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: MRL 380-74757/41
Matrix: Water
Analysis Batch: 74757

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	0.0512		mg/L		102	50 - 150

Lab Sample ID: MRL 380-74757/7
Matrix: Water
Analysis Batch: 74757

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	0.0438	J	mg/L		88	50 - 150

Lab Sample ID: 380-79846-Y-1 MS
Matrix: Water
Analysis Batch: 74757

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	<0.050		1.00	1.05		mg/L		102	80 - 120

Lab Sample ID: 380-79846-Y-1 MSD
Matrix: Water
Analysis Batch: 74757

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	<0.050		1.00	1.06		mg/L		103	80 - 120	1	20

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-74376/4
Matrix: Water
Analysis Batch: 74376

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			01/31/24 18:42	1

Lab Sample ID: LCS 380-74376/5
Matrix: Water
Analysis Batch: 74376

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

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

Lab Sample ID: LCSD 380-74376/17
Matrix: Water
Analysis Batch: 74376

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
pH	6.00	6.0		SU		100	98 - 102	0	2

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-79846-Y-1 DU
Matrix: Water
Analysis Batch: 74376

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.8		6.8		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 380-74002/1
Matrix: Water
Analysis Batch: 74002

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<0.050		0.050	mg/L			01/30/24 14:45	1

Lab Sample ID: LCS 380-74002/4
Matrix: Water
Analysis Batch: 74002

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	0.272		mg/L		109	90 - 110

Lab Sample ID: LCSD 380-74002/12
Matrix: Water
Analysis Batch: 74002

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	0.269		mg/L		108	90 - 110	1	20

Lab Sample ID: MRL 380-74002/11
Matrix: Water
Analysis Batch: 74002

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	0.0436	J	mg/L		87	50 - 150

Lab Sample ID: MRL 380-74002/2
Matrix: Water
Analysis Batch: 74002

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	0.0456	J	mg/L		91	50 - 150

Lab Sample ID: 380-80485-1 MS
Matrix: Water
Analysis Batch: 74002

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	<0.050	F1	0.250	0.0992	F1	mg/L		40	80 - 120

QC Sample Results

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

Job ID: 380-80485-1

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

Lab Sample ID: 380-80485-1 MSD
Matrix: Water
Analysis Batch: 74002

Client Sample ID: Ka'amilo Wells
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	<0.050	F1	0.250	0.100	F1	mg/L		40	80 - 120	1	20

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

QC Association Summary

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

Job ID: 380-80485-1

GC/MS Semi VOA

Prep Batch: 74122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	525.2	
MB 380-74122/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-74122/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-74122/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-80485-1 MS	Ka'amilo Wells	Total/NA	Water	525.2	
380-80502-T-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 74359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	525.2	74122
MB 380-74122/21-A	Method Blank	Total/NA	Water	525.2	74122
LCS 380-74122/23-A	Lab Control Sample	Total/NA	Water	525.2	74122
MRL 380-74122/22-A	Lab Control Sample	Total/NA	Water	525.2	74122
380-80485-1 MS	Ka'amilo Wells	Total/NA	Water	525.2	74122
380-80502-T-1-A DU	Duplicate	Total/NA	Water	525.2	74122

GC Semi VOA

Prep Batch: 73772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	504.1	
MBL 380-73772/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-73772/29-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-73772/2-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-73772/3-A	Lab Control Sample	Total/NA	Water	504.1	
380-79847-BJ-1-A MS	Matrix Spike	Total/NA	Water	504.1	
380-79848-BH-1-A DU	Duplicate	Total/NA	Water	504.1	

Prep Batch: 73786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	505	
MB 380-73786/4-A	Method Blank	Total/NA	Water	505	
MRL 380-73786/2-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-73786/3-A	Lab Control Sample	Total/NA	Water	505	
380-80377-F-1-A MS	Matrix Spike	Total/NA	Water	505	
380-80377-G-1-A MS	Matrix Spike	Total/NA	Water	505	
380-80380-B-1-A MS	Matrix Spike	Total/NA	Water	505	
380-80380-C-1-A MS	Matrix Spike	Total/NA	Water	505	

Prep Batch: 73822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-2	TRAVEL BLANK	Total/NA	Water	504.1	
MBL 380-73822/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-73822/29-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-73822/2-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-73822/3-A	Lab Control Sample	Total/NA	Water	504.1	
380-79849-V-1-E MS	Matrix Spike	Total/NA	Water	504.1	
380-79845-X-1-A DU	Duplicate	Total/NA	Water	504.1	

QC Association Summary

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

Job ID: 380-80485-1

GC Semi VOA

Analysis Batch: 73931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	504.1	73772
MBL 380-73772/4-A	Method Blank	Total/NA	Water	504.1	73772
LCS 380-73772/29-A	Lab Control Sample	Total/NA	Water	504.1	73772
MRL 380-73772/2-A	Lab Control Sample	Total/NA	Water	504.1	73772
MRL 380-73772/3-A	Lab Control Sample	Total/NA	Water	504.1	73772
380-79847-BJ-1-A MS	Matrix Spike	Total/NA	Water	504.1	73772
380-79848-BH-1-A DU	Duplicate	Total/NA	Water	504.1	73772

Analysis Batch: 73960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-2	TRAVEL BLANK	Total/NA	Water	504.1	73822
MBL 380-73822/4-A	Method Blank	Total/NA	Water	504.1	73822
LCS 380-73822/29-A	Lab Control Sample	Total/NA	Water	504.1	73822
MRL 380-73822/2-A	Lab Control Sample	Total/NA	Water	504.1	73822
MRL 380-73822/3-A	Lab Control Sample	Total/NA	Water	504.1	73822
380-79849-V-1-E MS	Matrix Spike	Total/NA	Water	504.1	73822
380-79845-X-1-A DU	Duplicate	Total/NA	Water	504.1	73822

Analysis Batch: 74298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	505	73786
MB 380-73786/4-A	Method Blank	Total/NA	Water	505	73786
MRL 380-73786/2-A	Lab Control Sample	Total/NA	Water	505	73786
MRL 380-73786/3-A	Lab Control Sample	Total/NA	Water	505	73786
380-80377-F-1-A MS	Matrix Spike	Total/NA	Water	505	73786
380-80377-G-1-A MS	Matrix Spike	Total/NA	Water	505	73786
380-80380-B-1-A MS	Matrix Spike	Total/NA	Water	505	73786
380-80380-C-1-A MS	Matrix Spike	Total/NA	Water	505	73786

HPLC/IC

Analysis Batch: 73774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	300.0	
MB 380-73774/53	Method Blank	Total/NA	Water	300.0	
LCS 380-73774/56	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-73774/57	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-73774/54	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-73774/55	Lab Control Sample	Total/NA	Water	300.0	
380-80485-1 MS	Ka'amilo Wells	Total/NA	Water	300.0	
380-80485-1 MSD	Ka'amilo Wells	Total/NA	Water	300.0	

Analysis Batch: 73775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	300.0	
MB 380-73775/53	Method Blank	Total/NA	Water	300.0	
LCS 380-73775/56	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-73775/57	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-73775/54	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-73775/55	Lab Control Sample	Total/NA	Water	300.0	
380-80485-1 MS	Ka'amilo Wells	Total/NA	Water	300.0	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-80485-1

HPLC/IC (Continued)

Analysis Batch: 73775 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1 MSD	Ka'amilo Wells	Total/NA	Water	300.0	

Analysis Batch: 73875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	300.0	
MB 380-73875/5	Method Blank	Total/NA	Water	300.0	
LCS 380-73875/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-73875/7	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-73875/4	Lab Control Sample	Total/NA	Water	300.0	
380-80485-1 MS	Ka'amilo Wells	Total/NA	Water	300.0	
380-80485-1 MSD	Ka'amilo Wells	Total/NA	Water	300.0	

Metals

Analysis Batch: 73870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	200.7 Rev 4.4	
MB 380-73870/86	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-73870/88	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-73870/89	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-73870/87	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-80428-B-1 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-80428-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

Analysis Batch: 73926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	200.8	
MB 380-73926/56	Method Blank	Total/NA	Water	200.8	
LCS 380-73926/58	Lab Control Sample	Total/NA	Water	200.8	
LCSD 380-73926/59	Lab Control Sample Dup	Total/NA	Water	200.8	
LLCS 380-73926/57	Lab Control Sample	Total/NA	Water	200.8	
380-80442-B-1 MS	Matrix Spike	Total/NA	Water	200.8	
380-80442-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 87797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	245.1	
MB 810-87797/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-87797/3-A	Lab Control Sample	Total/NA	Water	245.1	
LLCS 810-87797/2-A	Lab Control Sample	Total/NA	Water	245.1	
810-92103-M-1-B MS	Matrix Spike	Total/NA	Water	245.1	
810-92103-M-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 87851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	245.1	87797
MB 810-87797/1-A	Method Blank	Total/NA	Water	245.1	87797
LCS 810-87797/3-A	Lab Control Sample	Total/NA	Water	245.1	87797
LLCS 810-87797/2-A	Lab Control Sample	Total/NA	Water	245.1	87797
810-92103-M-1-B MS	Matrix Spike	Total/NA	Water	245.1	87797
810-92103-M-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	87797

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-80485-1

General Chemistry

Analysis Batch: 73819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	SM 2540C	
MB 380-73819/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-73819/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-73819/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-73819/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-73819/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-80485-1 DU	Ka'amilo Wells	Total/NA	Water	SM 2540C	

Analysis Batch: 74002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	SM 4500 S2 D	
MB 380-74002/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-74002/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-74002/12	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-74002/11	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-74002/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-80485-1 MS	Ka'amilo Wells	Total/NA	Water	SM 4500 S2 D	
380-80485-1 MSD	Ka'amilo Wells	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 74371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	SM 2320B	
MB 380-74371/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-74371/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-74371/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-74371/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-74371/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-79846-Y-1 MS	Matrix Spike	Total/NA	Water	SM 2320B	
380-79846-Y-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 2320B	
380-79846-Y-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 74374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	SM 2510B	
MB 380-74374/2	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-74374/4	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-74374/16	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-74374/3	Lab Control Sample	Total/NA	Water	SM 2510B	
380-79846-Y-1 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 74376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	SM 4500 H+ B	
MB 380-74376/4	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-74376/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-74376/17	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-79846-Y-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 74757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-80485-1	Ka'amilo Wells	Total/NA	Water	SM 4500 F C	

QC Association Summary

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

Job ID: 380-80485-1

General Chemistry (Continued)

Analysis Batch: 74757 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-74757/40	Method Blank	Total/NA	Water	SM 4500 F C	
MB 380-74757/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-74757/42	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-74757/43	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-74757/41	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-74757/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-79846-Y-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-79846-Y-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

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Lab Chronicle

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

Job ID: 380-80485-1

Client Sample ID: Ka'amilo Wells

Lab Sample ID: 380-80485-1

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			74122	OTM3	EA POM	01/31/24 09:40
Total/NA	Analysis	525.2		1	74359	Q8LA	EA POM	02/01/24 11:42
Total/NA	Prep	504.1			73772	KF9K	EA POM	01/29/24 14:30 - 01/29/24 16:30 ¹
Total/NA	Analysis	504.1		1	73931	KF9K	EA POM	01/30/24 06:20
Total/NA	Prep	505			73786	DR5R	EA POM	01/29/24 13:31 - 01/29/24 14:14 ¹
Total/NA	Analysis	505		1	74298	ULRL	EA POM	01/29/24 21:27
Total/NA	Analysis	300.0		1	73875	UNJR	EA POM	01/30/24 03:06
Total/NA	Analysis	300.0		5	73774	VB9B	EA POM	01/27/24 01:05
Total/NA	Analysis	300.0		5	73775	VB9B	EA POM	01/27/24 01:05
Total/NA	Analysis	200.7 Rev 4.4		1	73870	T8RV	EA POM	01/29/24 19:06
Total/NA	Analysis	200.8		1	73926	AAE8	EA POM	01/29/24 14:52
Total/NA	Prep	245.1			87797	AC	EA SB	02/06/24 12:26
Total/NA	Analysis	245.1		1	87851	AC	EA SB	02/06/24 17:16
Total/NA	Analysis	SM 2320B		1	74371	GP4S	EA POM	01/31/24 20:40
Total/NA	Analysis	SM 2510B		1	74374	GP4S	EA POM	01/31/24 20:40
Total/NA	Analysis	SM 2540C		1	73819	D2MW	EA POM	01/29/24 14:32
Total/NA	Analysis	SM 4500 F C		1	74757	GP4S	EA POM	02/02/24 14:17
Total/NA	Analysis	SM 4500 H+ B		1	74376	GP4S	EA POM	01/31/24 20:40
Total/NA	Analysis	SM 4500 S2 D		1	74002	MH2L	EA POM	01/30/24 14:45

Client Sample ID: TRAVEL BLANK

Lab Sample ID: 380-80485-2

Date Collected: 01/25/24 11:00

Matrix: Water

Date Received: 01/26/24 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	504.1			73822	LZ8Q	EA POM	01/29/24 16:00 - 01/29/24 17:00 ¹
Total/NA	Analysis	504.1		1	73960	LZ8Q	EA POM	01/30/24 02:46

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: 380-80485-1

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	01-31-24 *

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
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

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

Accreditation/Certification Summary

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

Job ID: 380-80485-1

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	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
SM 2320B		Water	Bicarbonate Alkalinity as CaCO3
SM 2320B		Water	Carbonate Alkalinity as CaCO3
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	02-29-24
Connecticut	State	PH-0132	03-31-24
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

Accreditation/Certification Summary

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

Job ID: 380-80485-1

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
MI - RadChem Recognition	State	9926	06-30-24
Michigan	State	9926	06-30-24
Minnesota	NELAP	1989807	12-31-24
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	04-01-24
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	04-30-24
Puerto Rico	State	IN00035	04-01-24
Rhode Island	State	LAO00343	12-30-23 *
South Carolina	State	95005001	06-30-24
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	03-14-24
Washington	State	C837	01-01-24 *
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

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



Method Summary

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

Job ID: 380-80485-1

Method	Method Description	Protocol	Laboratory
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: 380-80485-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-80485-1	Ka'amilo Wells	Water	01/25/24 11:00	01/26/24 10:15
380-80485-2	TRAVEL BLANK	Water	01/25/24 11:00	01/26/24 10:15

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Eurofins Eaton Analytical Pomona

941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-386-1100

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COCC No:				
Client Contact: Eurofins Eaton Analytical		Phone:	Arada, Rachelle		380-103738-1				
Shipping/Receiving:			E-Mail: Rachelle.Arada@eurofins.com	State of Origin: Hawaii	Page: Page 1 of 1				
Company: Eurofins Eaton Analytical		Due Date Requested: 2/15/2024	Accreditations Required (see note): State - Hawaii		Job #: 380-80485-1				
Address: 110 S Hill Street		TAT Requested (days):	Analysis Requested						
City: South Bend									
State, Zip: IN, 46617		PO #:							
Phone: 574-233-4777(Tel) 574-233-8207(Fax)		WO #:							
Email:		Project #:							
Project Name: RED-HILL		SSOW#:							
Site: Honolulu BWS Sites									
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (W=Water, S=Soil, O=Other, BR=Trace, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
Kaamilo Wells (380-80485-1)		1/25/24	11:00	Hawaiian	Water	X	X	1	Initial Temp: 0.8 Corrected Temp: 0.4 ie can # Wet
<p>Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analysis & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.</p>									
Possible Hazard Identification		Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Unconfirmed		Date:		Method of Shipment:					
Empty Kit Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:		
Relinquished by: <i>Raul Ariza</i>		1-29-24 8:06 am		Raul Ariza		01/30/24 0900	FEA		
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:		
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:		
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					
Client Provided Sample Container									

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-80485-1

Login Number: 80485
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").	False	Headspace exists in the 524 TB vials.
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-80485-1

Login Number: 80485

List Number: 3

Creator: Pehling-Wright, Penny

List Source: Eurofins Eaton Analytical South Bend

List Creation: 01/30/24 03:23 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