

ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/9/2023 10:32:25 AM

JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-45203-1

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 will 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, Manager of Project Management
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: 380-45203-1

Qualifiers

GC/MS VOA

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

GC/MS VOA TICs

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

GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD 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	Cal bration 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
^2	Cal bration Blank (ICB and/or CCB) is outside acceptance limits.
B	Analyte was found in the associated method blank.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)

Definitions/Glossary

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

Job ID: 380-45203-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-45203-1

Job ID: 380-45203-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-45203-1

Comments

No additional comments.

Receipt

The samples were received on 4/27/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 2.7° C, 2.8° C, 3.4° C, 4.5° C, 4.8° C and 5.6° C.

Receipt Exceptions

Method 524.2: One or more containers for the following samples were received broken or leaking: AIEA WELLS P2 (260) (380-45203-1) and TB: AIEA WELLS PUMPS 1&2(260) (380-45203-2). One of the 524 vials from the first listed site was received broken.

The following samples were listed on the Chain of Custody (COC); however, no samples were received: AIEA WELLS P2 (260) (380-45203-1) and TB: AIEA WELLS PUMPS 1&2(260) (380-45203-2).

Travel Blank for 8015 Gas is marked on the COC, but no travel blanks were received for 8015 Gas.

GC/MS VOA

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

GC/MS Semi VOA

Method 525.2 LL: The low level laboratory control sample (LLCS) for preparation batch 810-58439 and analytical batch 810-58555 recovered outside control limits for the following analytes: Atrazine @ 221%, Di(2-ethylhexyl)phthalate @ 681%, Bromacil @ 240%, Butachlor @ 185%, Butylbenzylphthalate @ 303%, Chlorobenzilate @ 173%, Chlorpyrifos @ 181%, Di(2-ethylhexyl)phthalate @ 279%, Di-n-butyl phthalate @ 719%, Di-n-octyl phthalate @ 267%, Endosulfan I @ 221%, Endosulfan II @ 180%, Ethyl parathion @ 320%, Malathion @ 216%, Pendamethalin @ 254%, Terbacil @ 263%, Terbutylazine @ 182%, trans-Chlordane @ 179%, Trifluralin @ 180% (Range 70-130%). These analytes were biased high in the LLCS and were not detected in the associated samples; therefore, the data have been reported. Chloroneb @ 0% (Range 70-130%). All out of range analytes prepared well below the MRL.

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

HPLC/IC

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-38684 were outside control limits for Nitrite as N, 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.

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

GC Semi VOA

Method 504.1: The continuing calibration verification (CCV) associated with batch 380-38952 recovered above the upper control limit for 1,2,3-Trichloropropane. The samples associated with this CCV were non-detects therefore, the data has been reported.

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 380-39001 contained Silver above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

General Chemistry

Case Narrative

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

Job ID: 380-45203-1

Job ID: 380-45203-1 (Continued)

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

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

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

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Detection Summary

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bromide	330		5.0	ug/L	1		300.0	Total/NA
Chloride	95		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	0.81		0.050	mg/L	1		300.0	Total/NA
Sulfate	16		0.25	mg/L	1		300.0	Total/NA
Calcium	19		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	18		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.3		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	39		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	2.2		1.0	ug/L	1		200.8	Total Recoverable
A kalinity	58		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	58	B ^2	2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	460		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	270		20	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: TB: AIEA WELLS PUMPS 1&2(260)

Lab Sample ID: 380-45203-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Trihalomethanes, Total	2.3		0.50	ug/L	1		524.2	Total/NA
Chloroform (Trichloromethane)	2.3		0.50	ug/L	1		524.2	Total/NA
Dichloromethane	0.89		0.50	ug/L	1		524.2	Total/NA

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: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	<0.50		0.50	ug/L			05/08/23 11:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			05/02/23 17:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		70 - 130		05/02/23 17:27	1
4-Bromofluorobenzene (Surr)	98		70 - 130		05/02/23 17:27	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		05/02/23 17:27	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 14:33	1
1,1-Dichloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,1-Dichloropropene	<0.50		0.50	ug/L			05/02/23 14:33	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
1,2,4-Trimethy benzene	<0.50		0.50	ug/L			05/02/23 14:33	1
1,2-Dichloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,2-Dichloropropane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,3,5-Trimethy benzene	<0.50		0.50	ug/L			05/02/23 14:33	1
1,3-Dichloropropane	<0.50		0.50	ug/L			05/02/23 14:33	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			05/02/23 14:33	1
2,2-Dichloropropane	<0.50		0.50	ug/L			05/02/23 14:33	1
2-Butanone (MEK)	<5.0		5.0	ug/L			05/02/23 14:33	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			05/02/23 14:33	1
Acetone	<500		500	ug/L			05/02/23 14:33	1
Benzene	<0.50		0.50	ug/L			05/02/23 14:33	1
Bromobenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
Bromochloromethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Bromodichloromethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Bromoethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Bromoform	<0.50		0.50	ug/L			05/02/23 14:33	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			05/02/23 14:33	1
Carbon disulfide	<0.50		0.50	ug/L			05/02/23 14:33	1
Carbon tetrachloride	<0.50		0.50	ug/L			05/02/23 14:33	1
Chlorobenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
Chlorodibromomethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Chloroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			05/02/23 14:33	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			05/02/23 14:33	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 14:33	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			05/02/23 14:33	1
Dibromomethane	<0.50		0.50	ug/L			05/02/23 14:33	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Dichloromethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Diisopropyl ether	<3.0		3.0	ug/L			05/02/23 14:33	1
Ethylbenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
Hexachlorobutadiene	<0.50		0.50	ug/L			05/02/23 14:33	1
Isopropyl benzene	<0.50		0.50	ug/L			05/02/23 14:33	1
m,p-Xylenes	<0.50		0.50	ug/L			05/02/23 14:33	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			05/02/23 14:33	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			05/02/23 14:33	1
Naphthalene	<0.50		0.50	ug/L			05/02/23 14:33	1
n-Butylbenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
N-Propylbenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
o-Chlorotoluene	<0.50		0.50	ug/L			05/02/23 14:33	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			05/02/23 14:33	1
o-Xylene	<0.50		0.50	ug/L			05/02/23 14:33	1
p-Chlorotoluene	<0.50		0.50	ug/L			05/02/23 14:33	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			05/02/23 14:33	1
p-Isopropyltoluene	<0.50		0.50	ug/L			05/02/23 14:33	1
sec-Butylbenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
Styrene	<0.50		0.50	ug/L			05/02/23 14:33	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			05/02/23 14:33	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			05/02/23 14:33	1
tert-Butylbenzene	<0.50		0.50	ug/L			05/02/23 14:33	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			05/02/23 14:33	1
Toluene	<0.50		0.50	ug/L			05/02/23 14:33	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 14:33	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			05/02/23 14:33	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			05/02/23 14:33	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			05/02/23 14:33	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			05/02/23 14:33	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			05/02/23 14:33	1
Xylenes, Total	<0.50		0.50	ug/L			05/02/23 14:33	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>N,N'</i> -Bis-3-oxapentamethyleneformamidinum dithiocarboxylate	10	T J N	ug/L		1.09	4030-53-9		05/02/23 14:33	1
Unknown	3.6	T J	ug/L		1.21	N/A		05/02/23 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		05/02/23 14:33	1
4-Bromofluorobenzene (Surr)	101		70 - 130		05/02/23 14:33	1
Toluene-d8 (Surr)	93		70 - 130		05/02/23 14:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Benzo[a]anthracene	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Aldrin	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		05/10/23 07:11	05/11/23 14:12	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		05/10/23 07:11	05/11/23 14:12	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dieldrin	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Benzo[a]pyrene	<0.020		0.020	ug/L		05/10/23 07:11	05/11/23 14:12	1
Endrin	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Benzo[g,h,i]perylene	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Heptachlor	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Butylbenzylphthalate	<0.50	*+	0.50	ug/L		05/10/23 07:11	05/11/23 14:12	1
Heptachlor epoxide	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Methoxychlor	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
gamma-BHC (Lindane)	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Acenaphthylene	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Atrazine	<0.050	*+	0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Chlorobenzilate	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
trans-Nonachlor	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
alpha-Chlordane	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
gamma-Chlordane	<0.050	*+	0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Butachlor	<0.050	*+	0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Bromacil	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Chlorothalonil	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Chlorpyrifos	<0.050	*+	0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
4,4'-DDD	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
4,4'-DDT	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Di-n-butyl phthalate	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Dichlorvos	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Diethylphthalate	<0.50		0.50	ug/L		05/10/23 07:11	05/11/23 14:12	1
Di(2-ethylhexyl)adipate	<0.60	*+	0.60	ug/L		05/10/23 07:11	05/11/23 14:12	1
Di (2-ethylhexyl)phthalate	<0.60	*+	0.60	ug/L		05/10/23 07:11	05/11/23 14:12	1
Dimethylphthalate	<0.50		0.50	ug/L		05/10/23 07:11	05/11/23 14:12	1
Endosulfan I	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Endosulfan II	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Endosulfan sulfate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Endrin aldehyde	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Hexachlorobenzene	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
alpha-BHC	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
beta-BHC	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
delta-BHC	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Hexachlorocyclopentadiene	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Indeno[1,2,3-cd]pyrene	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Isophorone	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Metolachlor	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Molinate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Propachlor	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Simazine	<0.050		0.050	ug/L		05/10/23 07:11	05/11/23 14:12	1
Terbacil	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Trifluralin	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Chloroneb	<0.099	*-	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Fluoranthene	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Thiobencarb	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Parathion	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Di-n-octyl phthalate	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Malathion	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Pendimethalin	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1
Terbutylazine	<0.099	*+	0.099	ug/L		05/10/23 07:11	05/11/23 14:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Eicosane	1.2	T J N	ug/L		16.54	112-95-8	05/10/23 07:11	05/11/23 14:12	1
Eicosane	0.87	T J N	ug/L		17.12	112-95-8	05/10/23 07:11	05/11/23 14:12	1
Heneicosane	0.61	T J N	ug/L		17.63	629-94-7	05/10/23 07:11	05/11/23 14:12	1
Unknown	1.3	T J	ug/L		18.39	N/A	05/10/23 07:11	05/11/23 14:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene (Surr)	104		70 - 130	05/10/23 07:11	05/11/23 14:12	1
Perylene-d12 (Surr)	94		70 - 130	05/10/23 07:11	05/11/23 14:12	1
Triphenylphosphate (Surr)	109		70 - 130	05/10/23 07:11	05/11/23 14:12	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	<0.041		0.041	ug/L		05/02/23 13:18	05/03/23 05:33	1
1,2-D bromo-3-Chloropropane	<0.010		0.010	ug/L		05/02/23 13:18	05/03/23 05:33	1
1,2-D bromoethane	<0.010		0.010	ug/L		05/02/23 13:18	05/03/23 05:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	121		60 - 140	05/02/23 13:18	05/03/23 05:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.080		0.080	ug/L		05/10/23 08:13	05/11/23 04:14	1
PCB-1221	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
PCB-1232	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
PCB-1242	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
PCB-1248	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
PCB-1254	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
PCB-1260	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
Chlordane (technical)	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
Toxaphene	<0.50		0.50	ug/L		05/10/23 08:13	05/11/23 04:14	1
Total PCBs as DCB (Qualitative)	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 04:14	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	330		5.0	ug/L			04/28/23 23:22	1
Chloride	95		2.5	mg/L			05/01/23 22:54	5
Nitrate as N	0.81		0.050	mg/L			04/28/23 04:07	1
Nitrite as N	<0.050		0.050	mg/L			04/28/23 04:07	1
Sulfate	16		0.25	mg/L			04/28/23 04:07	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	19		1.0	mg/L			05/01/23 12:12	1
Magnesium	18		0.10	mg/L			05/01/23 12:12	1
Potassium	2.3		1.0	mg/L			05/01/23 12:12	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	39		1.0	mg/L			05/01/23 12:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Arsenic	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Beryllium	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Cadmium	<0.50		0.50	ug/L		05/02/23 08:22	05/03/23 16:11	1
Chromium	2.2		1.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Copper	<2.0		2.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Lead	<0.50		0.50	ug/L		05/02/23 08:22	05/03/23 16:11	1
Nickel	<5.0		5.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Selenium	<5.0		5.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Silver	<0.50	^2	0.50	ug/L		05/02/23 08:22	05/03/23 16:11	1
Thallium	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:11	1
Zinc	<20		20	ug/L		05/02/23 08:22	05/03/23 16:11	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		05/02/23 12:26	05/02/23 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	58		2.0	mg/L			05/01/23 17:11	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	58	B ^2	2.0	mg/L			05/01/23 17:11	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.0		2.0	mg/L			05/01/23 17:11	1
Specific Conductance (SM 2510B)	460		2.0	umhos/cm			05/01/23 17:11	1
Total Dissolved Solids (SM 2540C)	270		20	mg/L			04/30/23 20:01	1
Fluoride (SM 4500 F C)	<0.050		0.050	mg/L			05/01/23 18:48	1
pH (SM 4500 H+ B)	7.8	HF		SU			05/01/23 17:11	1
Sulfide (SM 4500 S2 D)	<0.050		0.050	mg/L			05/02/23 13:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2-Chlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
2-Nitroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
2-Nitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
3-Nitroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
4-Chloroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
4-Nitroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
4-Nitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Acenaphthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Aniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Anthracene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzidine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzoic Acid	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
Biphenyl	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Chrysene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Dibenzofuran	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Fluoranthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Fluorene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Hexachloroethane	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Naphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Nitrobenzene	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Pentachlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Perylene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Phenanthrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1
Phenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/26/23 00:27	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/26/23 00:27	1
Pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/26/23 00:27	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	85		31 - 143	05/01/23 00:00	05/26/23 00:27	1
(d10-Acenaphthene)	78		27 - 133	05/01/23 00:00	05/26/23 00:27	1
(d10-Phenanthrene)	78		43 - 129	05/01/23 00:00	05/26/23 00:27	1
(d12-Chrysene)	95		52 - 144	05/01/23 00:00	05/26/23 00:27	1
(d12-Perylene)	97		36 - 161	05/01/23 00:00	05/26/23 00:27	1
(d5-Phenol)	35		0 - 85	05/01/23 00:00	05/26/23 00:27	1
(d8-Naphthalene)	75		25 - 125	05/01/23 00:00	05/26/23 00:27	1

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			05/01/23 15:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			05/01/23 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	99		60 - 140		05/01/23 14:48	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.028		mg/L			05/04/23 14:43	1
JP5	ND	U	0.055		mg/L			05/04/23 14:43	1
JP8	ND	U	0.055		mg/L			05/04/23 14:43	1
MOTOR OIL	ND	U	0.055		mg/L			05/04/23 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	77		60 - 130		05/04/23 14:43	1
HEXACOSANE	102		60 - 130		05/04/23 14:43	1

Client Sample ID: TB: AIEA WELLS PUMPS 1&2(260)

Lab Sample ID: 380-45203-2

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	2.3		0.50	ug/L			05/08/23 11:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			05/02/23 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		70 - 130		05/02/23 17:51	1
4-Bromofluorobenzene (Surr)	91		70 - 130		05/02/23 17:51	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 130		05/02/23 17:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: TB: AIEA WELLS PUMPS 1&2(260)

Lab Sample ID: 380-45203-2

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,1-Dichloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,1-Dichlorethylene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,1-Dichloropropene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,2,4-Trimethy benzene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,2-Dichloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,2-Dichloropropane	<0.50		0.50	ug/L			05/02/23 19:31	1
1,3,5-Trimethy benzene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,3-Dichloropropane	<0.50		0.50	ug/L			05/02/23 19:31	1
2,2-Dichloropropane	<0.50		0.50	ug/L			05/02/23 19:31	1
2-Butanone (MEK)	<5.0		5.0	ug/L			05/02/23 19:31	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			05/02/23 19:31	1
Acetone	<500		500	ug/L			05/02/23 19:31	1
Benzene	<0.50		0.50	ug/L			05/02/23 19:31	1
Bromobenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
Bromochloromethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Bromodichloromethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Bromoform	<0.50		0.50	ug/L			05/02/23 19:31	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			05/02/23 19:31	1
Carbon disulfide	<0.50		0.50	ug/L			05/02/23 19:31	1
Carbon tetrachloride	<0.50		0.50	ug/L			05/02/23 19:31	1
Chlorobenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
Chlorodibromomethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Chloroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Chloroform (Trichloromethane)	2.3		0.50	ug/L			05/02/23 19:31	1
Dichloromethane	0.89		0.50	ug/L			05/02/23 19:31	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 19:31	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			05/02/23 19:31	1
Dibromomethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Ethylbenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
Hexachlorobutadiene	<0.50		0.50	ug/L			05/02/23 19:31	1
Isopropy benzene	<0.50		0.50	ug/L			05/02/23 19:31	1
m,p-Xylenes	<0.50		0.50	ug/L			05/02/23 19:31	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			05/02/23 19:31	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			05/02/23 19:31	1
Naphthalene	<0.50		0.50	ug/L			05/02/23 19:31	1
n-Butylbenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
N-Propylbenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			05/02/23 19:31	1
o-Chlorotoluene	<0.50		0.50	ug/L			05/02/23 19:31	1
o-Xylene	<0.50		0.50	ug/L			05/02/23 19:31	1
p-Chlorotoluene	<0.50		0.50	ug/L			05/02/23 19:31	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			05/02/23 19:31	1
p-Isopropyltoluene	<0.50		0.50	ug/L			05/02/23 19:31	1
sec-Butylbenzene	<0.50		0.50	ug/L			05/02/23 19:31	1

Client Sample Results

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

Job ID: 380-45203-1

Client Sample ID: TB: AIEA WELLS PUMPS 1&2(260)

Lab Sample ID: 380-45203-2

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	<0.50		0.50	ug/L			05/02/23 19:31	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			05/02/23 19:31	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			05/02/23 19:31	1
tert-Butylbenzene	<0.50		0.50	ug/L			05/02/23 19:31	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			05/02/23 19:31	1
Toluene	<0.50		0.50	ug/L			05/02/23 19:31	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			05/02/23 19:31	1
Xylenes, Total	<0.50		0.50	ug/L			05/02/23 19:31	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 19:31	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			05/02/23 19:31	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			05/02/23 19:31	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			05/02/23 19:31	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			05/02/23 19:31	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Bromoethane	<0.50		0.50	ug/L			05/02/23 19:31	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			05/02/23 19:31	1
Diisopropyl ether	<3.0		3.0	ug/L			05/02/23 19:31	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	9.5	T J	ug/L		1.08	N/A		05/02/23 19:31	1
Unknown	3.4	T J	ug/L		1.22	N/A		05/02/23 19:31	1
Acetaldehyde	5.7	T J N	ug/L		1.63	75-07-0		05/02/23 19:31	1
Furfural	2.0	T J N	ug/L		10.18	98-01-1		05/02/23 19:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130		05/02/23 19:31	1
4-Bromofluorobenzene (Surr)	98		70 - 130		05/02/23 19:31	1
Toluene-d8 (Surr)	90		70 - 130		05/02/23 19:31	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	<0.041		0.041	ug/L		05/02/23 13:18	05/03/23 06:13	1
1,2-D bromo-3-Chloropropane	<0.010		0.010	ug/L		05/02/23 13:18	05/03/23 06:13	1
1,2-D bromoethane	<0.010		0.010	ug/L		05/02/23 13:18	05/03/23 06:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	105		60 - 140	05/02/23 13:18	05/03/23 06:13	1

Action Limit Summary

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org	EPAMCL	EPAMCL	Method	Prep Type
				Limit	Limit	S Limit		
Trihalomethanes, Total	<0.50		ug/L		80		524.2	Total/NA
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200		524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7		524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L				524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50		ug/L	70.00	70		524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5		524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5		524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5		524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100		524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70		524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5		524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700		524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600		524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75		524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100		524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000		524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100		524.2	Total/NA
Trichloroethylene (TCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Vinyl Chloride (VC)	<0.30		ug/L	2.000	2		524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000		524.2	Total/NA
Alachlor	<0.050		ug/L		2		525.2 LL	Total/NA
Benzo[a]pyrene	<0.020		ug/L		0.2		525.2 LL	Total/NA
Endrin	<0.0099		ug/L		2		525.2 LL	Total/NA
Heptachlor	<0.0099		ug/L		0.4		525.2 LL	Total/NA
Heptachlor epoxide	<0.0099		ug/L		0.2		525.2 LL	Total/NA
Methoxychlor	<0.050		ug/L		40		525.2 LL	Total/NA
gamma-BHC (Lindane)	<0.0099		ug/L		0.2		525.2 LL	Total/NA
Atrazine	<0.050	+	ug/L		3		525.2 LL	Total/NA
Di(2-ethylhexyl)adipate	<0.60	+	ug/L		400		525.2 LL	Total/NA
Di (2-ethylhexyl)phthalate	<0.60	+	ug/L		6		525.2 LL	Total/NA
Hexachlorobenzene	<0.050		ug/L		1		525.2 LL	Total/NA
Hexachlorocyclopentadiene	<0.050		ug/L		50		525.2 LL	Total/NA
Simazine	<0.050		ug/L		4		525.2 LL	Total/NA
1,2,3-Trichloropropane	<0.041		ug/L				504.1	Total/NA
1,2-D bromo-3-Chloropropane	<0.010		ug/L		0.2		504.1	Total/NA
1,2-D bromoethane	<0.010		ug/L		0.05		504.1	Total/NA
Chlordane (technical)	<0.10		ug/L		2		505	Total/NA
Toxaphene	<0.50		ug/L		3		505	Total/NA
Polychlorinated biphenyls, Total	<0.10		ug/L		0.5		505	Total/NA
Chloride	95		mg/L			250	300.0	Total/NA
Nitrate as N	0.81		mg/L		10		300.0	Total/NA
Nitrite as N	<0.050		mg/L		1		300.0	Total/NA
Sulfate	16		mg/L			250	300.0	Total/NA
Mercury	<0.10		ug/L		2		245.1	Total/NA
Total Dissolved Solids	270		mg/L			500	SM 2540C	Total/NA

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Action Limit Summary

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260) (Continued)

Lab Sample ID: 380-45203-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	EPAMCL	Method	Prep Type
						S Limit		
Fluoride	<0.050		mg/L		4	2	SM 4500 F C	Total/NA

Client Sample ID: TB: AIEA WELLS PUMPS 1&2(260)

Lab Sample ID: 380-45203-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	RL	Method	Prep Type
Trihalomethanes, Total	2.3		ug/L		80	0.50	524.2	Total/NA
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200	0.50	524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7	0.50	524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L			0.50	524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50		ug/L	70.00	70	0.50	524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Dichloromethane	0.89		ug/L	5.000	5	0.50	524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70	0.50	524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700	0.50	524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600	0.50	524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75	0.50	524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000	0.50	524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000	0.50	524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Trichloroethylene (TCE)	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Vinyl Chloride (VC)	<0.30		ug/L	2.000	2	0.30	524.2	Total/NA
1,2,3-Trichloropropane	<0.041		ug/L			0.041	504.1	Total/NA
1,2-D bromo-3-Chloropropane	<0.010		ug/L		0.2	0.010	504.1	Total/NA
1,2-D bromoethane	<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: 380-45203-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (70-130)	BFB (70-130)	DCA (70-130)
380-45203-1	AIEA WELLS P2 (260)	102	98	107
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	103	91	108
LCS 380-38764/2	Lab Control Sample	102	111	107
LCSD 380-38764/3	Lab Control Sample Dup	103	105	106
MB 380-38764/5	Method Blank	101	103	104

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (50-150)	BFB (50-150)	DCA (50-150)
MRL 380-38764/4	Lab Control Sample	100	105	111

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (70-130)	BFB (70-130)	TOL (70-130)
380-45203-1	AIEA WELLS P2 (260)	108	101	93
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	106	98	90
380-45841-A-1 LCS	Lab Control Sample	102	96	101
380-45841-A-2 LCS	Lab Control Sample	100	103	98
LCS 380-38767/5	Lab Control Sample	102	104	101
LCSD 380-38767/6	Lab Control Sample Dup	101	104	103
MB 380-38767/8	Method Blank	109	99	93
MRL 380-38767/3	Lab Control Sample	106	99	93
MRL 380-38767/4	Lab Control Sample	105	100	93

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

Surrogate Summary

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

Job ID: 380-45203-1

Method: 525.2 LL - 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)
380-45203-1	AIEA WELLS P2 (260)	104	94	109
380-44786-BE-1-A DU	Duplicate	105	101	107
810-61304-F-1-A MS	Matrix Spike	105	102	108
LCS 810-58439/2-A	Lab Control Sample	105	100	103
LLCS 810-58439/3-A	Lab Control Sample	102	97	104
LLCS 810-58441/3-A	Lab Control Sample	105	93	111
MB 810-58439/1-A	Method Blank	103	99	101
MB 810-58441/1-A	Method Blank	104	97	105

Surrogate Legend

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

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)
380-45049-H-2-A MS	Matrix Spike	93
380-45049-J-1-A DU	Duplicate	97
380-45203-1	AIEA WELLS P2 (260)	121
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	105
LCS 380-38656/3-A	Lab Control Sample	102
MBL 380-38656/4-A	Method Blank	98
MRL 380-38656/1-A	Lab Control Sample	96
MRL 380-38656/2-A	Lab Control Sample	101

Surrogate Legend

DBPP = 1,2-D bromopropane (Surr)

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

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PHL (0-130)	PRY (36-161)	TBP (30-130)
106291-B1	Method Blank	87	84	98	86	99	103	91
106291-BS1	Lab Control Sample	81	99	93	79	104	86	92
106291-BS2	Lab Control Sample Dup	85	99	94	84	116	87	93

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PHL = (d5-Phenol)
PRY = (d12-Perylene)
TBP = (2,4,6-Tribromophenol)

Surrogate Summary

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

Job ID: 380-45203-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PHL (0-85)	PRY (36-161)	TBP (31-143)
380-45203-1	AIEA WELLS P2 (260)	78	78	95	75	35	97	85

Surrogate Legend
 (d10-Acenaphthene) = (d10-Acenaphthene)
 (d10-Phenanthrene) = (d10-Phenanthrene)
 CRY = (d12-Chrysene)
 NPT = (d8-Naphthalene)
 PHL = (d5-Phenol)
 PRY = (d12-Perylene)
 TBP = (2,4,6-Tribromophenol)

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

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
23D320-01M	Matrix Spike	118
23D320-01S	Matrix Spike Duplicate	118

Surrogate Legend
 BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB
23VGH7E01B	Method Blank	

Surrogate Legend
 BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (70-130)
23VGH7E01C	LCD	112
23VGH7E01L	Lab Control Sample	117

Surrogate Legend
 BFB = BROMOFLUOROBENZENE

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB (60-140)
380-45203-1	AIEA WELLS P2 (260)	99

Surrogate Summary

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

Job ID: 380-45203-1

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

BB XACOSAI

Lab Sample ID	Client Sample ID
23DSE005WB	Method Blank

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

BB XACOSAI

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-45203-1	AIEA WELLS P2 (260)	77	102

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

BB XACOSAI

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23D320-01M	Matrix Spike	83	103
23D320-01M	Matrix Spike	88	100
23D320-01S	Matrix Spike Duplicate	89	109
23D320-01S	Matrix Spike Duplicate	86	98
23DSE005WL	Lab Control Sample	88	108
23J5E005WL	Lab Control Sample	89	101
23J8E005WL	Lab Control Sample	101	104

Surrogate Legend

BB = BROMOBENZENE
HEXACOSANE = HEXACOSANE

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MB 380-38767/8
Matrix: Water
Analysis Batch: 38767

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,1-Dichloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,1-Dichlorethylene	<0.50		0.50	ug/L			05/02/23 13:48	1
1,1-Dichloropropene	<0.50		0.50	ug/L			05/02/23 13:48	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
1,2,4-Trimethy benzene	<0.50		0.50	ug/L			05/02/23 13:48	1
1,2-Dichloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,2-Dichloropropane	<0.50		0.50	ug/L			05/02/23 13:48	1
1,3,5-Trimethy benzene	<0.50		0.50	ug/L			05/02/23 13:48	1
1,3-Dichloropropane	<0.50		0.50	ug/L			05/02/23 13:48	1
2,2-Dichloropropane	<0.50		0.50	ug/L			05/02/23 13:48	1
2-Butanone (MEK)	<5.0		5.0	ug/L			05/02/23 13:48	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			05/02/23 13:48	1
Acetone	<500		500	ug/L			05/02/23 13:48	1
Benzene	<0.50		0.50	ug/L			05/02/23 13:48	1
Bromobenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
Bromochloromethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Bromodichloromethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Bromoform	<0.50		0.50	ug/L			05/02/23 13:48	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			05/02/23 13:48	1
Carbon disulfide	<0.50		0.50	ug/L			05/02/23 13:48	1
Carbon tetrachloride	<0.50		0.50	ug/L			05/02/23 13:48	1
Chlorobenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
Chlorodibromomethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Chloroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			05/02/23 13:48	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 13:48	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			05/02/23 13:48	1
Dibromomethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Dichloromethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Ethylbenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
Hexachlorobutadiene	<0.50		0.50	ug/L			05/02/23 13:48	1
Isopropy benzene	<0.50		0.50	ug/L			05/02/23 13:48	1
m,p-Xylenes	<0.50		0.50	ug/L			05/02/23 13:48	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			05/02/23 13:48	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			05/02/23 13:48	1
Naphthalene	<0.50		0.50	ug/L			05/02/23 13:48	1
n-Butylbenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
N-Propylbenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
o-Chlorotoluene	<0.50		0.50	ug/L			05/02/23 13:48	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			05/02/23 13:48	1
o-Xylene	<0.50		0.50	ug/L			05/02/23 13:48	1

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MB 380-38767/8
Matrix: Water
Analysis Batch: 38767

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	<0.50		0.50	ug/L			05/02/23 13:48	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			05/02/23 13:48	1
p-Isopropyltoluene	<0.50		0.50	ug/L			05/02/23 13:48	1
sec-Butylbenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
Styrene	<0.50		0.50	ug/L			05/02/23 13:48	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			05/02/23 13:48	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			05/02/23 13:48	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			05/02/23 13:48	1
tert-Butylbenzene	<0.50		0.50	ug/L			05/02/23 13:48	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			05/02/23 13:48	1
Toluene	<0.50		0.50	ug/L			05/02/23 13:48	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			05/02/23 13:48	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			05/02/23 13:48	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			05/02/23 13:48	1
Bromoethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			05/02/23 13:48	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			05/02/23 13:48	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			05/02/23 13:48	1
Diisopropyl ether	<3.0		3.0	ug/L			05/02/23 13:48	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			05/02/23 13:48	1
Xylenes, Total	<0.50		0.50	ug/L			05/02/23 13:48	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A		05/02/23 13:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		05/02/23 13:48	1
4-Bromofluorobenzene (Surr)	99		70 - 130		05/02/23 13:48	1
Toluene-d8 (Surr)	93		70 - 130		05/02/23 13:48	1

Lab Sample ID: 380-45841-A-1 LCS
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	5.00	4.63		ug/L		93	70 - 130
1,1,1-Trichloroethane	5.00	4.31		ug/L		86	70 - 130
1,1,1,2,2-Tetrachloroethane	5.00	4.67		ug/L		93	70 - 130
1,1,2-Trichloroethane	5.00	4.85		ug/L		97	70 - 130
1,1-Dichloroethane	5.00	4.93		ug/L		99	70 - 130
1,1-Dichlorethylene	5.00	4.58		ug/L		92	70 - 130
1,1-Dichloropropene	5.00	4.40		ug/L		88	70 - 130
1,2,3-Trichlorobenzene	5.00	5.04		ug/L		101	70 - 130
1,2,3-Trichloropropane	5.00	4.61		ug/L		92	70 - 130
1,2,4-Trichlorobenzene	5.00	5.07		ug/L		101	70 - 130
1,2,4-Trimethy benzene	5.00	5.10		ug/L		102	70 - 130
1,2-Dichloroethane	5.00	4.77		ug/L		95	70 - 130
1,2-Dichloropropane	5.00	4.65		ug/L		93	70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 380-45841-A-1 LCS
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethy benzene	5.00	5.03		ug/L		101	70 - 130
1,3-Dichloropropane	5.00	4.66		ug/L		93	70 - 130
2,2-Dichloropropane	5.00	4.30		ug/L		86	70 - 130
2-Butanone (MEK)	50.0	44.7		ug/L		89	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	48.3		ug/L		97	70 - 130
Acetone	50.0	43.5	J	ug/L		87	70 - 130
Benzene	5.00	4.68		ug/L		94	70 - 130
Bromobenzene	5.00	4.75		ug/L		95	70 - 130
Bromochloromethane	5.00	4.82		ug/L		96	70 - 130
Bromodichloromethane	5.00	4.70		ug/L		94	70 - 130
Bromoform	5.00	4.37		ug/L		87	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.20		ug/L		104	70 - 130
Carbon disulfide	5.00	5.42		ug/L		108	70 - 130
Carbon tetrachloride	5.00	4.02		ug/L		80	70 - 130
Chlorobenzene	5.00	4.75		ug/L		95	70 - 130
Chlorodibromomethane	5.00	5.05		ug/L		101	70 - 130
cis-1,3-Dichloropropene	5.00	4.57		ug/L		91	70 - 130
Dichloromethane	5.00	4.88		ug/L		98	70 - 130
Ethylbenzene	5.00	4.77		ug/L		95	70 - 130
Hexachlorobutadiene	5.00	4.73		ug/L		95	70 - 130
Isopropyl benzene	5.00	4.77		ug/L		95	70 - 130
m,p-Xylenes	10.0	9.91		ug/L		99	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	4.98		ug/L		100	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.71		ug/L		94	70 - 130
Naphthalene	5.00	4.73		ug/L		95	70 - 130
n-Butylbenzene	5.00	5.57		ug/L		111	70 - 130
N-Propylbenzene	5.00	4.63		ug/L		93	70 - 130
o-Chlorotoluene	5.00	4.95		ug/L		99	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	5.28		ug/L		106	70 - 130
o-Xylene	5.00	4.80		ug/L		96	70 - 130
p-Chlorotoluene	5.00	5.14		ug/L		103	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.07		ug/L		101	70 - 130
p-Isopropyltoluene	5.00	5.04		ug/L		101	70 - 130
sec-Butylbenzene	5.00	4.99		ug/L		100	70 - 130
Styrene	5.00	4.89		ug/L		98	70 - 130
Tert-amyl methyl ether	5.00	4.28		ug/L		86	70 - 130
1,3-Dichloropropene, Total	10.0	9.11		ug/L		91	70 - 130
Tert-butyl ethyl ether	5.00	4.90		ug/L		98	70 - 130
tert-Butylbenzene	5.00	4.71		ug/L		94	70 - 130
Tetrachloroethene (PCE)	5.00	4.54		ug/L		91	70 - 130
Toluene	5.00	4.75		ug/L		95	70 - 130
trans-1,2-Dichloroethylene	5.00	4.80		ug/L		96	70 - 130
trans-1,3-Dichloropropene	5.00	4.54		ug/L		91	70 - 130
Trichloroethylene (TCE)	5.00	4.70		ug/L		94	70 - 130
Bromoethane	5.00	4.92		ug/L		98	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.50		ug/L		90	70 - 130
Trichlorotrifluoroethane	5.00	4.23		ug/L		85	70 - 130
Diisopropyl ether	5.00	5.16		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 380-45841-A-1 LCS
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl Chloride (VC)	5.00	4.62		ug/L		92	70 - 130
Xylenes, Total	15.0	14.7		ug/L		98	70 - 130

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

Lab Sample ID: 380-45841-A-2 LCS
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	5.00	4.55		ug/L		91	70 - 130
1,1,1-Trichloroethane	5.00	4.27		ug/L		85	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.77		ug/L		95	70 - 130
1,1,2-Trichloroethane	5.00	4.66		ug/L		93	70 - 130
1,1-Dichloroethane	5.00	4.82		ug/L		96	70 - 130
1,1-Dichlorethylene	5.00	4.45		ug/L		89	70 - 130
1,1-Dichloropropene	5.00	4.23		ug/L		85	70 - 130
1,2,3-Trichlorobenzene	5.00	4.83		ug/L		97	70 - 130
1,2,3-Trichloropropane	5.00	4.84		ug/L		97	70 - 130
1,2,4-Trichlorobenzene	5.00	4.68		ug/L		94	70 - 130
1,2,4-Trimethy benzene	5.00	4.96		ug/L		99	70 - 130
1,2-Dichloroethane	5.00	4.67		ug/L		93	70 - 130
1,2-Dichloropropane	5.00	4.65		ug/L		93	70 - 130
1,3,5-Trimethy benzene	5.00	4.95		ug/L		99	70 - 130
1,3-Dichloropropane	5.00	4.53		ug/L		91	70 - 130
2,2-Dichloropropane	5.00	3.96		ug/L		79	70 - 130
2-Butanone (MEK)	50.0	44.6		ug/L		89	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	49.1		ug/L		98	70 - 130
Acetone	50.0	49.5	J	ug/L		99	70 - 130
Benzene	5.00	4.61		ug/L		92	70 - 130
Bromobenzene	5.00	4.75		ug/L		95	70 - 130
Bromochloromethane	5.00	4.65		ug/L		93	70 - 130
Bromodichloromethane	5.00	4.47		ug/L		89	70 - 130
Bromoform	5.00	4.46		ug/L		89	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.01		ug/L		100	70 - 130
Carbon disulfide	5.00	4.77		ug/L		95	70 - 130
Carbon tetrachloride	5.00	3.95		ug/L		79	70 - 130
Chlorobenzene	5.00	4.71		ug/L		94	70 - 130
Chlorodibromomethane	5.00	5.05		ug/L		101	70 - 130
cis-1,3-Dichloropropene	5.00	4.26		ug/L		85	70 - 130
Dichloromethane	5.00	4.73		ug/L		95	70 - 130
Ethylbenzene	5.00	4.61		ug/L		92	70 - 130
Hexachlorobutadiene	5.00	4.41		ug/L		88	70 - 130
Isopropy benzene	5.00	4.66		ug/L		93	70 - 130
m,p-Xylenes	10.0	9.50		ug/L		95	70 - 130

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 380-45841-A-2 LCS
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m-Dichlorobenzene (1,3-DCB)	5.00	5.02		ug/L		100	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.89		ug/L		98	70 - 130
Naphthalene	5.00	4.47		ug/L		89	70 - 130
n-Butylbenzene	5.00	4.91		ug/L		98	70 - 130
N-Propylbenzene	5.00	4.42		ug/L		88	70 - 130
o-Chlorotoluene	5.00	4.86		ug/L		97	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.92		ug/L		98	70 - 130
o-Xylene	5.00	4.61		ug/L		92	70 - 130
p-Chlorotoluene	5.00	4.87		ug/L		97	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.04		ug/L		101	70 - 130
p-Isopropyltoluene	5.00	4.85		ug/L		97	70 - 130
sec-Butylbenzene	5.00	4.83		ug/L		97	70 - 130
Styrene	5.00	4.68		ug/L		94	70 - 130
Tert-amyl methyl ether	5.00	4.32		ug/L		86	70 - 130
1,3-Dichloropropene, Total	10.0	8.81		ug/L		88	70 - 130
Tert-butyl ethyl ether	5.00	4.64		ug/L		93	70 - 130
tert-Butylbenzene	5.00	4.58		ug/L		92	70 - 130
Tetrachloroethene (PCE)	5.00	4.33		ug/L		87	70 - 130
Toluene	5.00	4.75		ug/L		95	70 - 130
trans-1,2-Dichloroethylene	5.00	4.63		ug/L		93	70 - 130
trans-1,3-Dichloropropene	5.00	4.55		ug/L		91	70 - 130
Trichloroethylene (TCE)	5.00	4.35		ug/L		87	70 - 130
Bromoethane	5.00	4.73		ug/L		95	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.15		ug/L		83	70 - 130
Trichlorotrifluoroethane	5.00	3.92		ug/L		78	70 - 130
Diisopropyl ether	5.00	5.04		ug/L		101	70 - 130
Vinyl Chloride (VC)	5.00	4.46		ug/L		89	70 - 130
Xylenes, Total	15.0	14.1		ug/L		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: LCS 380-38767/5
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	5.00	4.79		ug/L		96	70 - 130
1,1,1-Trichloroethane	5.00	4.82		ug/L		96	70 - 130
1,1,2,2-Tetrachloroethane	5.00	5.25		ug/L		105	70 - 130
1,1,2-Trichloroethane	5.00	4.92		ug/L		98	70 - 130
1,1-Dichloroethane	5.00	5.26		ug/L		105	70 - 130
1,1-Dichlorethylene	5.00	5.14		ug/L		103	70 - 130
1,1-Dichloropropene	5.00	4.89		ug/L		98	70 - 130
1,2,3-Trichlorobenzene	5.00	5.27		ug/L		105	70 - 130
1,2,3-Trichloropropane	5.00	5.14		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LCS 380-38767/5

Matrix: Water

Analysis Batch: 38767

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,4-Trichlorobenzene	5.00	5.08		ug/L		102	70 - 130
1,2,4-Trimethy benzene	5.00	5.55		ug/L		111	70 - 130
1,2-Dichloroethane	5.00	5.06		ug/L		101	70 - 130
1,2-Dichloropropane	5.00	4.92		ug/L		98	70 - 130
1,3,5-Trimethy benzene	5.00	5.50		ug/L		110	70 - 130
1,3-Dichloropropane	5.00	4.92		ug/L		98	70 - 130
2,2-Dichloropropane	5.00	4.57		ug/L		91	70 - 130
2-Butanone (MEK)	50.0	47.9		ug/L		96	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	53.0		ug/L		106	70 - 130
Acetone	50.0	46.5	J	ug/L		93	70 - 130
Benzene	5.00	4.93		ug/L		99	70 - 130
Bromobenzene	5.00	5.02		ug/L		100	70 - 130
Bromochloromethane	5.00	5.03		ug/L		101	70 - 130
Bromodichloromethane	5.00	4.84		ug/L		97	70 - 130
Bromoform	5.00	4.82		ug/L		96	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.14		ug/L		103	70 - 130
Carbon disulfide	5.00	5.92		ug/L		118	70 - 130
Carbon tetrachloride	5.00	4.88		ug/L		98	70 - 130
Chlorobenzene	5.00	4.87		ug/L		97	70 - 130
Chlorodibromomethane	5.00	5.24		ug/L		105	70 - 130
cis-1,3-Dichloropropene	5.00	4.41		ug/L		88	70 - 130
Dichloromethane	5.00	4.91		ug/L		98	70 - 130
Ethylbenzene	5.00	5.03		ug/L		101	70 - 130
Hexachlorobutadiene	5.00	4.95		ug/L		99	70 - 130
Isopropy benzene	5.00	5.35		ug/L		107	70 - 130
m,p-Xylenes	10.0	10.3		ug/L		103	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.33		ug/L		107	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	5.24		ug/L		105	70 - 130
Naphthalene	5.00	4.90		ug/L		98	70 - 130
n-Butylbenzene	5.00	5.62		ug/L		112	70 - 130
N-Propylbenzene	5.00	4.86		ug/L		97	70 - 130
o-Chlorotoluene	5.00	5.33		ug/L		107	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	5.26		ug/L		105	70 - 130
o-Xylene	5.00	4.92		ug/L		98	70 - 130
p-Chlorotoluene	5.00	5.05		ug/L		101	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.33		ug/L		107	70 - 130
p-Isopropyltoluene	5.00	5.52		ug/L		110	70 - 130
sec-Butylbenzene	5.00	5.56		ug/L		111	70 - 130
Styrene	5.00	4.97		ug/L		99	70 - 130
Tert-amyl methyl ether	5.00	4.71		ug/L		94	70 - 130
1,3-Dichloropropene, Total	10.0	9.01		ug/L		90	70 - 130
Tert-butyl ethyl ether	5.00	4.88		ug/L		98	70 - 130
tert-Butylbenzene	5.00	5.25		ug/L		105	70 - 130
Tetrachloroethene (PCE)	5.00	4.86		ug/L		97	70 - 130
Toluene	5.00	4.86		ug/L		97	70 - 130
trans-1,2-Dichloroethylene	5.00	5.00		ug/L		100	70 - 130
trans-1,3-Dichloropropene	5.00	4.60		ug/L		92	70 - 130
Trichloroethylene (TCE)	5.00	4.91		ug/L		98	70 - 130
Bromoethane	5.00	5.15		ug/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LCS 380-38767/5
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichlorofluoromethane (Freon 11)	5.00	5.07		ug/L		101	70 - 130
Trichlorotrifluoroethane	5.00	4.87		ug/L		97	70 - 130
Diisopropyl ether	5.00	5.25		ug/L		105	70 - 130
Vinyl Chloride (VC)	5.00	5.08		ug/L		102	70 - 130
Xylenes, Total	15.0	15.2		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	104		70 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: LCSD 380-38767/6
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	4.86		ug/L		97	70 - 130	2	20
1,1,1-Trichloroethane	5.00	5.07		ug/L		101	70 - 130	5	20
1,1,2,2-Tetrachloroethane	5.00	5.19		ug/L		104	70 - 130	1	20
1,1,2-Trichloroethane	5.00	5.07		ug/L		101	70 - 130	3	20
1,1-Dichloroethane	5.00	5.39		ug/L		108	70 - 130	2	20
1,1-Dichlorethylene	5.00	4.61		ug/L		92	70 - 130	11	20
1,1-Dichloropropene	5.00	5.10		ug/L		102	70 - 130	4	20
1,2,3-Trichlorobenzene	5.00	5.15		ug/L		103	70 - 130	2	20
1,2,3-Trichloropropane	5.00	5.07		ug/L		101	70 - 130	1	20
1,2,4-Trichlorobenzene	5.00	4.98		ug/L		100	70 - 130	2	20
1,2,4-Trimethy benzene	5.00	5.57		ug/L		111	70 - 130	0	20
1,2-Dichloroethane	5.00	5.13		ug/L		103	70 - 130	1	20
1,2-Dichloropropane	5.00	5.09		ug/L		102	70 - 130	3	20
1,3,5-Trimethy benzene	5.00	5.59		ug/L		112	70 - 130	2	20
1,3-Dichloropropane	5.00	5.00		ug/L		100	70 - 130	2	20
2,2-Dichloropropane	5.00	4.73		ug/L		95	70 - 130	3	20
2-Butanone (MEK)	50.0	47.5		ug/L		95	70 - 130	1	20
4-Methyl-2-pentanone (MIBK)	50.0	54.1		ug/L		108	70 - 130	2	20
Acetone	50.0	53.3	J	ug/L		107	70 - 130	14	20
Benzene	5.00	5.09		ug/L		102	70 - 130	3	20
Bromobenzene	5.00	5.00		ug/L		100	70 - 130	0	20
Bromochloromethane	5.00	5.04		ug/L		101	70 - 130	0	20
Bromodichloromethane	5.00	5.06		ug/L		101	70 - 130	4	20
Bromoform	5.00	4.75		ug/L		95	70 - 130	2	20
Bromomethane (Methyl Bromide)	5.00	5.47		ug/L		109	70 - 130	6	20
Carbon disulfide	5.00	5.85		ug/L		117	70 - 130	1	20
Carbon tetrachloride	5.00	5.03		ug/L		101	70 - 130	3	20
Chlorobenzene	5.00	5.17		ug/L		103	70 - 130	6	20
Chlorodibromomethane	5.00	5.38		ug/L		108	70 - 130	3	20
cis-1,3-Dichloropropene	5.00	4.67		ug/L		93	70 - 130	6	20
Dichloromethane	5.00	5.14		ug/L		103	70 - 130	5	20
Ethylbenzene	5.00	5.27		ug/L		105	70 - 130	5	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LCSD 380-38767/6
Matrix: Water
Analysis Batch: 38767

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
Hexachlorobutadiene	5.00	5.13		ug/L		103	70 - 130	4	20
Isopropyl benzene	5.00	5.44		ug/L		109	70 - 130	2	20
m,p-Xylenes	10.0	10.9		ug/L		109	70 - 130	6	20
m-Dichlorobenzene (1,3-DCB)	5.00	5.34		ug/L		107	70 - 130	0	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.31		ug/L		106	70 - 130	1	20
Naphthalene	5.00	4.86		ug/L		97	70 - 130	1	20
n-Butylbenzene	5.00	5.58		ug/L		112	70 - 130	1	20
N-Propylbenzene	5.00	5.22		ug/L		104	70 - 130	7	20
o-Chlorotoluene	5.00	5.30		ug/L		106	70 - 130	1	20
o-Dichlorobenzene (1,2-DCB)	5.00	5.12		ug/L		102	70 - 130	3	20
o-Xylene	5.00	5.26		ug/L		105	70 - 130	7	20
p-Chlorotoluene	5.00	5.31		ug/L		106	70 - 130	5	20
p-Dichlorobenzene (1,4-DCB)	5.00	5.33		ug/L		107	70 - 130	0	20
p-Isopropyltoluene	5.00	5.54		ug/L		111	70 - 130	0	20
sec-Butylbenzene	5.00	5.56		ug/L		111	70 - 130	0	20
Styrene	5.00	5.18		ug/L		104	70 - 130	4	20
Tert-amyl methyl ether	5.00	4.87		ug/L		97	70 - 130	3	20
1,3-Dichloropropene, Total	10.0	9.67		ug/L		97	70 - 130	7	20
Tert-butyl ethyl ether	5.00	5.10		ug/L		102	70 - 130	4	20
tert-Butylbenzene	5.00	5.42		ug/L		108	70 - 130	3	20
Tetrachloroethene (PCE)	5.00	5.10		ug/L		102	70 - 130	5	20
Toluene	5.00	5.09		ug/L		102	70 - 130	5	20
trans-1,2-Dichloroethylene	5.00	5.34		ug/L		107	70 - 130	7	20
trans-1,3-Dichloropropene	5.00	5.00		ug/L		100	70 - 130	8	20
Trichloroethylene (TCE)	5.00	5.13		ug/L		103	70 - 130	4	20
Bromoethane	5.00	5.38		ug/L		108	70 - 130	4	20
Trichlorofluoromethane (Freon 11)	5.00	5.53		ug/L		111	70 - 130	9	20
Trichlorotrifluoroethane	5.00	4.82		ug/L		96	70 - 130	1	20
Diisopropyl ether	5.00	5.41		ug/L		108	70 - 130	3	20
Vinyl Chloride (VC)	5.00	5.17		ug/L		103	70 - 130	2	20
Xylenes, Total	15.0	16.2		ug/L		108	70 - 130	6	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	104		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: MRL 380-38767/3
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	0.500	0.506		ug/L		101	50 - 150
Vinyl Chloride (VC)	0.250	0.306		ug/L		122	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	106		70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MRL 380-38767/3
Matrix: Water
Analysis Batch: 38767

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
4-Bromofluorobenzene (Surr)	99		70 - 130
Toluene-d8 (Surr)	93		70 - 130

Lab Sample ID: MRL 380-38767/4
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.500	0.483	J	ug/L		97	50 - 150
1,1,1-Trichloroethane	0.500	0.508		ug/L		102	50 - 150
1,1,1,2,2-Tetrachloroethane	0.500	0.580		ug/L		116	50 - 150
1,1,2-Trichloroethane	0.500	0.526		ug/L		105	50 - 150
1,1-Dichloroethane	0.500	0.604		ug/L		121	50 - 150
1,1-Dichlorethylene	0.500	0.582		ug/L		116	50 - 150
1,1-Dichloropropene	0.500	0.568		ug/L		114	50 - 150
1,2,3-Trichlorobenzene	0.500	0.497	J	ug/L		99	50 - 150
1,2,3-Trichloropropane	0.500	0.597		ug/L		119	50 - 150
1,2,4-Trichlorobenzene	0.500	0.506		ug/L		101	50 - 150
1,2,4-Trimethy benzene	0.500	0.466	J	ug/L		93	50 - 150
1,2-Dichloroethane	0.500	0.578		ug/L		116	50 - 150
1,2-Dichloropropane	0.500	0.584		ug/L		117	50 - 150
1,3,5-Trimethy benzene	0.500	0.481	J	ug/L		96	50 - 150
1,3-Dichloropropane	0.500	0.562		ug/L		112	50 - 150
2,2-Dichloropropane	0.500	0.479	J	ug/L		96	50 - 150
2-Butanone (MEK)	5.00	5.56		ug/L		111	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	4.61	J	ug/L		92	50 - 150
Acetone	5.00	4.25	J	ug/L		85	50 - 150
Benzene	0.500	0.580		ug/L		116	50 - 150
Bromobenzene	0.500	0.537		ug/L		107	50 - 150
Bromochloromethane	0.500	0.566		ug/L		113	50 - 150
Bromodichloromethane	0.500	0.500		ug/L		100	50 - 150
Bromoform	0.500	0.497	J	ug/L		99	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.583		ug/L		117	50 - 150
Carbon disulfide	0.500	0.724		ug/L		145	50 - 150
Carbon tetrachloride	0.500	0.492	J	ug/L		98	50 - 150
Chlorobenzene	0.500	0.528		ug/L		106	50 - 150
Chlorodibromomethane	0.500	0.516		ug/L		103	50 - 150
cis-1,3-Dichloropropene	0.500	0.474	J	ug/L		95	50 - 150
Dichloromethane	0.500	0.569		ug/L		114	50 - 150
Ethylbenzene	0.500	0.479	J	ug/L		96	50 - 150
Hexachlorobutadiene	0.500	0.516		ug/L		103	50 - 150
Isopropy benzene	0.500	0.488	J	ug/L		98	50 - 150
m,p-Xylenes	1.00	0.897		ug/L		90	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.542		ug/L		108	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.646		ug/L		129	50 - 150
Naphthalene	0.500	0.475	J	ug/L		95	50 - 150
n-Butylbenzene	0.500	0.518		ug/L		104	50 - 150
N-Propylbenzene	0.500	0.466	J	ug/L		93	50 - 150

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MRL 380-38767/4
Matrix: Water
Analysis Batch: 38767

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
o-Chlorotoluene	0.500	0.548		ug/L		110	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.573		ug/L		115	50 - 150
o-Xylene	0.500	0.398	J	ug/L		80	50 - 150
p-Chlorotoluene	0.500	0.481	J	ug/L		96	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.555		ug/L		111	50 - 150
p-Isopropyltoluene	0.500	0.479	J	ug/L		96	50 - 150
sec-Butylbenzene	0.500	0.498	J	ug/L		100	50 - 150
Styrene	0.500	0.441	J	ug/L		88	50 - 150
Tert-amyl methyl ether	0.500	0.518	J	ug/L		104	50 - 150
1,3-Dichloropropene, Total	1.00	0.937		ug/L		94	50 - 150
Tert-butyl ethyl ether	0.500	0.574	J	ug/L		115	50 - 150
tert-Butylbenzene	0.500	0.486	J	ug/L		97	50 - 150
Tetrachloroethene (PCE)	0.500	0.561		ug/L		112	50 - 150
Toluene	0.500	0.537		ug/L		107	50 - 150
trans-1,2-Dichloroethylene	0.500	0.660		ug/L		132	50 - 150
trans-1,3-Dichloropropene	0.500	0.463	J	ug/L		93	50 - 150
Trichloroethylene (TCE)	0.500	0.534		ug/L		107	50 - 150
Bromoethane	0.500	0.596		ug/L		119	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.570		ug/L		114	50 - 150
Trichlorotrifluoroethane	0.500	0.492	J	ug/L		98	50 - 150
Diisopropyl ether	0.500	0.617	J	ug/L		123	50 - 150
Vinyl Chloride (VC)	0.500	0.599		ug/L		120	50 - 150
Xylenes, Total	1.50	1.29		ug/L		86	50 - 150

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

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

Lab Sample ID: MB 380-38764/5
Matrix: Water
Analysis Batch: 38764

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			05/02/23 17:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		05/02/23 17:04	1
4-Bromofluorobenzene (Surr)	103		70 - 130		05/02/23 17:04	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		05/02/23 17:04	1

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LCS 380-38764/2
Matrix: Water
Analysis Batch: 38764

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tertiary Butyl Alcohol (TBA)	5.00	5.22		ug/L		104	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	102		70 - 130				
4-Bromofluorobenzene (Surr)	111		70 - 130				
1,2-Dichloroethane-d4 (Surr)	107		70 - 130				

Lab Sample ID: LCSD 380-38764/3
Matrix: Water
Analysis Batch: 38764

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tertiary Butyl Alcohol (TBA)	5.00	4.96		ug/L		99	70 - 130	5	20
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	103		70 - 130						
4-Bromofluorobenzene (Surr)	105		70 - 130						
1,2-Dichloroethane-d4 (Surr)	106		70 - 130						

Lab Sample ID: MRL 380-38764/4
Matrix: Water
Analysis Batch: 38764

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Tertiary Butyl Alcohol (TBA)	2.00	2.81		ug/L		141	50 - 150
MRL MRL							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	100		50 - 150				
4-Bromofluorobenzene (Surr)	105		50 - 150				
1,2-Dichloroethane-d4 (Surr)	111		50 - 150				

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

Lab Sample ID: MB 810-58439/1-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58439

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Benzo[a]anthracene	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Aldrin	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		05/10/23 07:11	05/11/23 07:11	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		05/10/23 07:11	05/11/23 07:11	1
Dieldrin	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Benzo[a]pyrene	<0.020		0.020	ug/L		05/10/23 07:11	05/11/23 07:11	1
Endrin	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Heptachlor	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 07:11	1

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MB 810-58439/1-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58439

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butylbenzylphthalate	<0.49		0.49	ug/L		05/10/23 07:11	05/11/23 07:11	1
Heptachlor epoxide	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Methoxychlor	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
gamma-BHC (Lindane)	<0.0099		0.0099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Acenaphthylene	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Atrazine	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Chlorobenzilate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
trans-Nonachlor	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
alpha-Chlordane	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
gamma-Chlordane	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Butachlor	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Bromacil	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Chlorothalonil	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Chlorpyrifos	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
4,4'-DDD	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
4,4'-DDT	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Di-n-butyl phthalate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Dichlorvos	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Diethylphthalate	<0.49		0.49	ug/L		05/10/23 07:11	05/11/23 07:11	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		05/10/23 07:11	05/11/23 07:11	1
Di (2-ethylhexyl)phthalate	<0.59		0.59	ug/L		05/10/23 07:11	05/11/23 07:11	1
Dimethylphthalate	<0.49		0.49	ug/L		05/10/23 07:11	05/11/23 07:11	1
Endosulfan I	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Endosulfan II	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Endosulfan sulfate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Endrin aldehyde	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Hexachlorobenzene	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
alpha-BHC	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
beta-BHC	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
delta-BHC	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Isophorone	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Metolachlor	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Molinate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Propachlor	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Simazine	<0.049		0.049	ug/L		05/10/23 07:11	05/11/23 07:11	1
Terbacil	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Trifluralin	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Chloroneb	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Fluoranthene	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Thiobencarb	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Parathion	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Malathion	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Pendimethalin	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1
Terbutylazine	<0.099		0.099	ug/L		05/10/23 07:11	05/11/23 07:11	1

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MB 810-58439/1-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58439

<i>Tentatively Identified Compound</i>	<i>MB MB</i>		<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Est. Result</i>	<i>Qualifier</i>							
<i>Decane</i>	2.96	T J N	ug/L		3.27	124-18-5	05/10/23 07:11	05/11/23 07:11	1
<i>Phenol, 4-(1,1-dimethylpropyl)-</i>	0.510	T J N	ug/L		4.82	80-46-6	05/10/23 07:11	05/11/23 07:11	1
<i>Phenol, 2,4-bis(1,1-dimethylethyl)-</i>	0.514	T J N	ug/L		5.43	96-76-4	05/10/23 07:11	05/11/23 07:11	1
<i>Tetracosane</i>	0.648	T J N	ug/L		12.60	646-31-1	05/10/23 07:11	05/11/23 07:11	1
<i>Tetracosane</i>	0.963	T J N	ug/L		13.32	646-31-1	05/10/23 07:11	05/11/23 07:11	1
<i>Heneicosane, 11-pentyl-</i>	0.788	T J N	ug/L		14.01	14739-72-1	05/10/23 07:11	05/11/23 07:11	1
<i>Hexadecane</i>	0.675	T J N	ug/L		14.68	544-76-3	05/10/23 07:11	05/11/23 07:11	1
<i>Eicosane, 9-octyl-</i>	0.680	T J N	ug/L		15.32	13475-77-9	05/10/23 07:11	05/11/23 07:11	1
<i>Unknown</i>	2.33	T J	ug/L		19.23	N/A	05/10/23 07:11	05/11/23 07:11	1

<i>Surrogate</i>	<i>MB MB</i>		<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
<i>2-Nitro-m-xylene (Surr)</i>	103		70 - 130	05/10/23 07:11	05/11/23 07:11	1
<i>Perylene-d12 (Surr)</i>	99		70 - 130	05/10/23 07:11	05/11/23 07:11	1
<i>Triphenylphosphate (Surr)</i>	101		70 - 130	05/10/23 07:11	05/11/23 07:11	1

Lab Sample ID: LCS 810-58439/2-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58439

<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>
Alachlor	1.96	2.13		ug/L		109	70 - 130
Aldrin	1.96	1.75		ug/L		89	70 - 130
Dieldrin	1.96	2.12		ug/L		108	70 - 130
Endrin	1.96	2.27		ug/L		116	70 - 130
Heptachlor	1.96	2.15		ug/L		110	70 - 130
Heptachlor epoxide	1.96	2.13		ug/L		109	70 - 130
Methoxychlor	1.96	1.92		ug/L		98	70 - 130
gamma-BHC (Lindane)	1.96	2.15		ug/L		110	70 - 130
Chlorobenzilate	1.96	2.19		ug/L		112	70 - 130
trans-Nonachlor	1.96	2.23		ug/L		114	70 - 130
alpha-Chlordane	1.96	2.09		ug/L		107	70 - 130
gamma-Chlordane	1.96	2.14		ug/L		109	70 - 130
Butachlor	1.96	2.09		ug/L		107	70 - 130
Bromacil	1.96	1.88		ug/L		96	70 - 130
Chlorothalonil	1.96	2.10		ug/L		107	70 - 130
Chlorpyrifos	1.96	2.10		ug/L		107	70 - 130
4,4'-DDD	1.96	2.02		ug/L		103	70 - 130
4,4'-DDT	1.96	1.94		ug/L		99	70 - 130
Di-n-butyl phthalate	1.96	2.11		ug/L		108	70 - 130
Dichlorvos	1.96	1.79		ug/L		91	70 - 130
Diethylphthalate	1.96	2.08		ug/L		106	70 - 130
Di(2-ethylhexyl)adipate	1.96	1.95		ug/L		99	70 - 130
Di(2-ethylhexyl)phthalate	1.96	1.89		ug/L		96	70 - 130
Dimethylphthalate	1.96	2.03		ug/L		104	70 - 130
Endosulfan I	1.96	1.95		ug/L		99	70 - 130
Endosulfan II	1.96	2.13		ug/L		109	70 - 130
Endosulfan sulfate	1.96	2.02		ug/L		103	70 - 130
Endrin aldehyde	1.96	1.63		ug/L		83	64 - 125

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LCS 810-58439/2-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorobenzene	1.96	2.05		ug/L		104	70 - 130
alpha-BHC	1.96	2.16		ug/L		110	70 - 130
beta-BHC	1.96	2.15		ug/L		110	70 - 130
delta-BHC	1.96	2.15		ug/L		110	70 - 130
Hexachlorocyclopentadiene	1.96	1.89		ug/L		96	70 - 130
Indeno[1,2,3-cd]pyrene	1.96	1.93		ug/L		98	70 - 130
Isophorone	1.96	1.86		ug/L		95	70 - 130
Metolachlor	1.96	2.16		ug/L		110	70 - 130
Molinate	1.96	1.95		ug/L		100	70 - 130
Propachlor	1.96	1.97		ug/L		101	70 - 130
Simazine	1.96	1.78		ug/L		91	70 - 130
Terbacil	1.96	1.66		ug/L		85	70 - 130
Trifluralin	1.96	2.09		ug/L		107	70 - 130
Chloroneb	1.96	2.20		ug/L		112	70 - 130
Fluoranthene	1.96	2.02		ug/L		103	70 - 130
Thiobencarb	1.96	2.00		ug/L		102	70 - 130
Parathion	1.96	2.04		ug/L		104	80 - 134
Di-n-octyl phthalate	1.96	1.76		ug/L		90	60 - 122
Malathion	1.96	2.14		ug/L		109	80 - 134
Pendimethalin	1.96	2.13		ug/L		109	65 - 122
Terbutylazine	1.96	2.18		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene (Surr)	105		70 - 130
Perylene-d12 (Surr)	100		70 - 130
Triphenylphosphate (Surr)	103		70 - 130

Lab Sample ID: LLCS 810-58439/3-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Alachlor	0.00980	0.0123	J	ug/L		126	50 - 150
Aldrin	0.00980	0.0122		ug/L		124	50 - 150
Dieldrin	0.00980	<0.0088		ug/L		71	50 - 150
Endrin	0.00980	0.0113		ug/L		115	50 - 150
Heptachlor	0.00980	0.0144		ug/L		147	50 - 150
Heptachlor epoxide	0.00980	0.0144		ug/L		147	50 - 150
Methoxychlor	0.00980	0.0111	J	ug/L		113	50 - 150
gamma-BHC (Lindane)	0.00980	0.0142		ug/L		145	50 - 150
Chlorobenzilate	0.00980	<0.029	*+	ug/L		173	50 - 150
trans-Nonachlor	0.00980	<0.020		ug/L		114	50 - 150
alpha-Chlordane	0.00980	0.0109	J	ug/L		111	50 - 150
gamma-Chlordane	0.00980	<0.020	*+	ug/L		179	50 - 150
Butachlor	0.00980	<0.020	*+	ug/L		185	50 - 150
Bromacil	0.00980	0.0235	J *+	ug/L		240	50 - 150
Chlorothalonil	0.00980	<0.020		ug/L		137	50 - 150
Chlorpyrifos	0.00980	<0.020	*+	ug/L		181	50 - 150

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LLCS 810-58439/3-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
4,4'-DDD	0.00980	<0.020		ug/L		122	50 - 150
4,4'-DDT	0.00980	<0.020		ug/L		144	50 - 150
Di-n-butyl phthalate	0.00980	0.0705	J *+	ug/L		719	50 - 150
Dichlorvos	0.00980	<0.0098		ug/L		95	50 - 150
Diethylphthalate	0.00980	<0.020		ug/L		148	50 - 150
Di(2-ethylhexyl)adipate	0.00980	0.0273	J *+	ug/L		279	50 - 150
Di (2-ethylhexyl)phthalate	0.00980	<0.098	*+	ug/L		681	50 - 150
Dimethylphthalate	0.00980	<0.29		ug/L		138	50 - 150
Endosulfan I	0.00980	<0.039	*+	ug/L		221	50 - 150
Endosulfan II	0.00980	<0.039	*+	ug/L		180	50 - 150
Endosulfan sulfate	0.00980	<0.020		ug/L		122	50 - 150
Endrin aldehyde	0.00980	<0.029		ug/L		99	50 - 150
Hexachlorobenzene	0.00980	<0.0098		ug/L		99	50 - 150
alpha-BHC	0.00980	0.0108	J	ug/L		110	50 - 150
beta-BHC	0.00980	<0.0098		ug/L		59	50 - 150
delta-BHC	0.00980	<0.0098		ug/L		80	50 - 150
Hexachlorocyclopentadiene	0.00980	<0.0098		ug/L		96	50 - 150
Indeno[1,2,3-cd]pyrene	0.00980	0.0132	J	ug/L		134	50 - 150
Isophorone	0.00980	0.0110	J	ug/L		113	50 - 150
Metolachlor	0.00980	0.0147	J	ug/L		150	50 - 150
Molinate	0.00980	<0.020		ug/L		117	50 - 150
Propachlor	0.00980	0.0117	J	ug/L		119	50 - 150
Simazine	0.00980	<0.029		ug/L		141	50 - 150
Terbacil	0.00980	0.0258	J *+	ug/L		263	50 - 150
Trifluralin	0.00980	<0.020	*+	ug/L		180	50 - 150
Chloroneb	0.00980	<0.069	*-	ug/L		0	50 - 150
Fluoranthene	0.00980	0.0117	J	ug/L		120	50 - 150
Thiobencarb	0.00980	0.0136	J	ug/L		139	50 - 150
Parathion	0.00980	<0.088	*+	ug/L		320	50 - 150
Di-n-octyl phthalate	0.00980	0.0261	J *+	ug/L		267	50 - 150
Malathion	0.00980	0.0212	J *+	ug/L		216	50 - 150
Pendimethalin	0.00980	0.0249	J *+	ug/L		254	50 - 150
Terbutylazine	0.00980	0.0178	J *+	ug/L		182	50 - 150

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
2-Nitro-m-xylene (Surr)	102		70 - 130
Perylene-d12 (Surr)	97		70 - 130
Triphenylphosphate (Surr)	104		70 - 130

Lab Sample ID: 810-61304-F-1-A MS
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Alachlor	<0.049		1.95	2.21		ug/L		113	70 - 130
Aldrin	<0.0097		1.95	1.79		ug/L		92	70 - 130
Dieldrin	<0.0097		1.95	2.24		ug/L		115	70 - 130
Endrin	<0.0097		1.95	2.37		ug/L		121	70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 810-61304-F-1-A MS
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Heptachlor	<0.0097		1.95	2.18		ug/L		111	70 - 130
Heptachlor epoxide	<0.0097		1.95	2.22		ug/L		114	70 - 130
Methoxychlor	<0.049		1.95	2.12		ug/L		108	70 - 130
gamma-BHC (Lindane)	<0.0097		1.95	2.19		ug/L		112	70 - 130
Chlorobenzilate	<0.097		1.95	2.45		ug/L		125	70 - 130
trans-Nonachlor	<0.049		1.95	2.13		ug/L		109	70 - 130
alpha-Chlordane	<0.049		1.95	2.18		ug/L		112	70 - 130
gamma-Chlordane	<0.049		1.95	2.13		ug/L		109	70 - 130
Butachlor	<0.049		1.95	2.24		ug/L		115	70 - 130
Bromacil	<0.097		1.95	2.15		ug/L		110	70 - 130
Chlorothalonil	<0.097		1.95	2.20		ug/L		113	70 - 130
Chlorpyrifos	<0.049		1.95	2.16		ug/L		111	70 - 130
4,4'-DDD	<0.097		1.95	2.07		ug/L		106	70 - 130
4,4'-DDT	<0.097		1.95	1.98		ug/L		102	70 - 130
Di-n-butyl phthalate	<0.097		1.95	2.19		ug/L		112	70 - 130
Dichlorvos	<0.049		1.95	2.01		ug/L		103	70 - 130
Diethylphthalate	<0.49		1.95	2.15		ug/L		110	70 - 130
Di(2-ethylhexyl)adipate	<0.58		1.95	2.00		ug/L		102	70 - 130
Di (2-ethylhexyl)phthalate	<0.58		1.95	2.09		ug/L		107	70 - 130
Dimethylphthalate	<0.49		1.95	2.07		ug/L		106	70 - 130
Endosulfan I	<0.097		1.95	2.18		ug/L		112	70 - 130
Endosulfan II	<0.097		1.95	2.22		ug/L		114	70 - 130
Endosulfan sulfate	<0.097		1.95	2.29		ug/L		117	70 - 130
Endrin aldehyde	<0.097		1.95	2.10		ug/L		108	64 - 125
Hexachlorobenzene	<0.049		1.95	2.14		ug/L		110	70 - 130
alpha-BHC	<0.097		1.95	2.16		ug/L		111	70 - 130
beta-BHC	<0.097		1.95	2.15		ug/L		110	70 - 130
delta-BHC	<0.097		1.95	2.22		ug/L		114	70 - 130
Hexachlorocyclopentadiene	<0.049		1.95	1.90		ug/L		97	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.95	2.02		ug/L		103	70 - 130
Isophorone	<0.097		1.95	1.93		ug/L		99	70 - 130
Metolachlor	<0.049		1.95	2.19		ug/L		112	70 - 130
Molinate	<0.097		1.95	2.00		ug/L		102	70 - 130
Propachlor	<0.049		1.95	2.14		ug/L		110	70 - 130
Simazine	<0.049		1.95	2.06		ug/L		105	70 - 130
Terbacil	<0.097		1.95	2.32		ug/L		119	70 - 130
Trifluralin	<0.097		1.95	2.19		ug/L		112	70 - 130
Chloroneb	<0.097		1.95	2.31		ug/L		118	70 - 130
Fluoranthene	<0.097		1.95	2.04		ug/L		104	70 - 130
Thiobencarb	<0.097		1.95	2.02		ug/L		103	70 - 130
Parathion	<0.097		1.95	2.12		ug/L		109	80 - 134
Di-n-octyl phthalate	<0.097		1.95	1.95		ug/L		100	60 - 122
Malathion	<0.097		1.95	2.22		ug/L		114	80 - 134
Pendimethalin	<0.097		1.95	2.32		ug/L		119	65 - 122
Terbutylazine	<0.097		1.95	2.22		ug/L		113	70 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene (Surr)	105		70 - 130

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 810-61304-F-1-A MS
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58439

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Perylene-d12 (Surr)</i>	102		70 - 130
<i>Triphenylphosphate (Surr)</i>	108		70 - 130

Lab Sample ID: 380-44786-BE-1-A DU
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Alachlor	<0.050		<0.049		ug/L		NC	15
Benzo[a]anthracene	<0.050		<0.049		ug/L		NC	14
Aldrin	<0.0099		<0.0098		ug/L		NC	18
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
Dieldrin	<0.0099		<0.0098		ug/L		NC	19
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	26
Endrin	<0.0099		<0.0098		ug/L		NC	18
Benzo[g,h,i]perylene	<0.050		<0.049		ug/L		NC	14
Heptachlor	<0.0099		<0.0098		ug/L		NC	15
Butylbenzylphthalate	<0.50		<0.49		ug/L		NC	23
Heptachlor epoxide	<0.0099		<0.0098		ug/L		NC	14
Methoxychlor	<0.050		<0.049		ug/L		NC	14
gamma-BHC (Lindane)	<0.0099		<0.0098		ug/L		NC	13
Acenaphthylene	<0.099		<0.098		ug/L		NC	34
Atrazine	<0.050		<0.049		ug/L		NC	17
Chlorobenzilate	<0.099		<0.098		ug/L		NC	30
trans-Nonachlor	<0.050		<0.049		ug/L		NC	17
alpha-Chlordane	<0.050		<0.049		ug/L		NC	15
gamma-Chlordane	<0.050		<0.049		ug/L		NC	16
Butachlor	<0.050		<0.049		ug/L		NC	15
Bromacil	<0.099		<0.098		ug/L		NC	20
Chlorothalonil	<0.099		<0.098		ug/L		NC	15
Chlorpyrifos	<0.050		<0.049		ug/L		NC	30
4,4'-DDD	<0.099		<0.098		ug/L		NC	17
4,4'-DDT	<0.099		<0.098		ug/L		NC	19
Di-n-butyl phthalate	<0.099		<0.098		ug/L		NC	20
Dichlorvos	<0.050		<0.049		ug/L		NC	30
Diethylphthalate	<0.50		<0.49		ug/L		NC	21
Di(2-ethylhexyl)adipate	<0.59		<0.59		ug/L		NC	16
Di (2-ethylhexyl)phthalate	<0.59		<0.59		ug/L		NC	18
Dimethylphthalate	<0.50		<0.49		ug/L		NC	20
Endosulfan I	<0.099		<0.098		ug/L		NC	30
Endosulfan II	<0.099		<0.098		ug/L		NC	30
Endosulfan sulfate	<0.099		<0.098		ug/L		NC	30
Endrin aldehyde	<0.099		<0.098		ug/L		NC	30
Hexachlorobenzene	<0.050		<0.049		ug/L		NC	14
alpha-BHC	<0.099		<0.098		ug/L		NC	30
beta-BHC	<0.099		<0.098		ug/L		NC	30
delta-BHC	<0.099		<0.098		ug/L		NC	30

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 380-44786-BE-1-A DU
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 58439

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Hexachlorocyclopentadiene	<0.050		<0.049		ug/L		NC	29
Indeno[1,2,3-cd]pyrene	<0.050		<0.049		ug/L		NC	25
Isophorone	<0.099		<0.098		ug/L		NC	44
Metolachlor	<0.050		<0.049		ug/L		NC	14
Molinate	<0.099		<0.098		ug/L		NC	16
Propachlor	<0.050		<0.049		ug/L		NC	12
Simazine	<0.050		<0.049		ug/L		NC	21
Terbacil	<0.099		<0.098		ug/L		NC	22
Trifluralin	<0.099		<0.098		ug/L		NC	19
Chloroneb	<0.099		<0.098		ug/L		NC	30
Fluoranthene	<0.099		<0.098		ug/L		NC	13
Thiobencarb	<0.099		<0.098		ug/L		NC	11
Parathion	<0.099		<0.098		ug/L		NC	20
Di-n-octyl phthalate	<0.099		<0.098		ug/L		NC	20
Malathion	<0.099		<0.098		ug/L		NC	20
Pendimethalin	<0.099		<0.098		ug/L		NC	30
Terbutylazine	<0.099		<0.098		ug/L		NC	30

Surrogate	DU	DU	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene (Surr)	105		70 - 130
Perylene-d12 (Surr)	101		70 - 130
Triphenylphosphate (Surr)	107		70 - 130

Lab Sample ID: MB 810-58441/1-A
Matrix: Water
Analysis Batch: 58552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58441

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Alachlor	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Benzo[a]anthracene	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Aldrin	<0.0099		0.0099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		05/10/23 07:18	05/10/23 20:53	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		05/10/23 07:18	05/10/23 20:53	1
Dieldrin	<0.0099		0.0099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Benzo[a]pyrene	<0.020		0.020	ug/L		05/10/23 07:18	05/10/23 20:53	1
Endrin	<0.0099		0.0099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Heptachlor	<0.0099		0.0099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Butylbenzylphthalate	<0.49		0.49	ug/L		05/10/23 07:18	05/10/23 20:53	1
Heptachlor epoxide	<0.0099		0.0099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Methoxychlor	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
gamma-BHC (Lindane)	<0.0099		0.0099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Acenaphthylene	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Atrazine	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Chlorobenzilate	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
trans-Nonachlor	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
alpha-Chlordane	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
gamma-Chlordane	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MB 810-58441/1-A
Matrix: Water
Analysis Batch: 58552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58441

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butachlor	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Bromacil	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Chlorothalonil	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Chlorpyrifos	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
4,4'-DDD	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
4,4'-DDT	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Di-n-butyl phthalate	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Dichlorvos	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Diethylphthalate	<0.49		0.49	ug/L		05/10/23 07:18	05/10/23 20:53	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		05/10/23 07:18	05/10/23 20:53	1
Di (2-ethylhexyl)phthalate	<0.59		0.59	ug/L		05/10/23 07:18	05/10/23 20:53	1
Dimethylphthalate	<0.49		0.49	ug/L		05/10/23 07:18	05/10/23 20:53	1
Endosulfan I	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Endosulfan II	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Endosulfan sulfate	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Endrin aldehyde	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Hexachlorobenzene	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
alpha-BHC	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
beta-BHC	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
delta-BHC	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Isophorone	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Metolachlor	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Molinate	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Propachlor	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Simazine	<0.049		0.049	ug/L		05/10/23 07:18	05/10/23 20:53	1
Terbacil	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Trifluralin	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Chloroneb	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Fluoranthene	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Thiobencarb	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Parathion	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Di-n-octyl phthalate	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Malathion	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Pendimethalin	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1
Terbutylazine	<0.099		0.099	ug/L		05/10/23 07:18	05/10/23 20:53	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L			N/A	05/10/23 07:18	05/10/23 20:53	1

<i>Surrogate</i>	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>2-Nitro-m-xylene (Surr)</i>	104		70 - 130	05/10/23 07:18	05/10/23 20:53	1
<i>Perylene-d12 (Surr)</i>	97		70 - 130	05/10/23 07:18	05/10/23 20:53	1
<i>Triphenylphosphate (Surr)</i>	105		70 - 130	05/10/23 07:18	05/10/23 20:53	1

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LLCS 810-58441/3-A
Matrix: Water
Analysis Batch: 58555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58441

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Alachlor	0.0985	0.0989		ug/L		100	50 - 150
Aldrin	0.0689	0.0641		ug/L		93	50 - 150
Dieldrin	0.0197	0.0146		ug/L		74	50 - 150
Endrin	0.00985	0.0135		ug/L		137	50 - 150
Heptachlor	0.00985	0.0120		ug/L		122	50 - 150
Heptachlor epoxide	0.00985	0.0124		ug/L		126	50 - 150
Methoxychlor	0.0985	0.0971		ug/L		99	50 - 150
gamma-BHC (Lindane)	0.0197	0.0252		ug/L		128	50 - 150
Butachlor	0.0985	0.0925		ug/L		94	50 - 150
Di(2-ethylhexyl)adipate	0.591	0.582	J	ug/L		98	50 - 150
Di (2-ethylhexyl)phthalate	0.591	0.632		ug/L		107	50 - 150
Hexachlorobenzene	0.0985	0.103		ug/L		105	50 - 150
Hexachlorocyclopentadiene	0.0985	0.0684		ug/L		69	50 - 150
Metolachlor	0.0985	0.102		ug/L		104	50 - 150
Propachlor	0.0985	0.0981		ug/L		100	50 - 150
Simazine	0.0689	0.0454	J	ug/L		66	50 - 150

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
2-Nitro-m-xylene (Surr)	105		70 - 130
Perylene-d12 (Surr)	93		70 - 130
Triphenylphosphate (Surr)	111		70 - 130

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

Lab Sample ID: MBL 380-38656/4-A
Matrix: Water
Analysis Batch: 38952

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 38656

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.0040		0.040	ug/L		05/02/23 13:18	05/02/23 18:44	1
1,2-D bromo-3-Chloropropane	<0.0010		0.010	ug/L		05/02/23 13:18	05/02/23 18:44	1
1,2-D bromoethane	<0.0040		0.010	ug/L		05/02/23 13:18	05/02/23 18:44	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	98		60 - 140	05/02/23 13:18	05/02/23 18:44	1

Lab Sample ID: LCS 380-38656/3-A
Matrix: Water
Analysis Batch: 38952

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.200	0.236		ug/L		118	70 - 130
1,2-D bromo-3-Chloropropane	0.200	0.197		ug/L		98	70 - 130
1,2-D bromoethane	0.200	0.198		ug/L		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dibromopropane (Surr)	102		60 - 140

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MRL 380-38656/1-A
Matrix: Water
Analysis Batch: 38952

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38656

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0400	0.0504		ug/L		126	60 - 140
Surrogate	%Recovery	MRL Qualifier	Limits				
1,2-Dibromopropane (Surr)	96		60 - 140				

Lab Sample ID: MRL 380-38656/2-A
Matrix: Water
Analysis Batch: 38952

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 38656

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0606		ug/L		121	60 - 140
1,2-D bromo-3-Chloropropane	0.0100	0.0116		ug/L		116	60 - 140
1,2-D bromoethane	0.0100	0.00869	J	ug/L		87	60 - 140
Surrogate	%Recovery	MRL Qualifier	Limits				
1,2-Dibromopropane (Surr)	101		60 - 140				

Lab Sample ID: 380-45049-H-2-A MS
Matrix: Water
Analysis Batch: 38952

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 38656

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	<0.040		1.24	1.21		ug/L		97	65 - 135
1,2-D bromo-3-Chloropropane	<0.010		0.249	0.236		ug/L		95	65 - 135
1,2-D bromoethane	<0.010		0.249	0.216		ug/L		87	65 - 135
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dibromopropane (Surr)	93		60 - 140						

Lab Sample ID: 380-45049-J-1-A DU
Matrix: Water
Analysis Batch: 38952

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 38656

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,2,3-Trichloropropane	<0.040		<0.039		ug/L		NC	20
1,2-D bromo-3-Chloropropane	<0.0099		<0.0098		ug/L		NC	20
1,2-D bromoethane	<0.0099		<0.0098		ug/L		NC	20
Surrogate	%Recovery	DU Qualifier	Limits					
1,2-Dibromopropane (Surr)	97		60 - 140					

QC Sample Results

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

Job ID: 380-45203-1

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Lab Sample ID: MB 810-58455/1-A
Matrix: Water
Analysis Batch: 58571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 58455

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.080		0.080	ug/L		05/10/23 08:13	05/11/23 03:46	1
PCB-1221	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
PCB-1232	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
PCB-1242	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
PCB-1248	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
PCB-1254	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
PCB-1260	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
Chlordane (technical)	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
Toxaphene	<0.50		0.50	ug/L		05/10/23 08:13	05/11/23 03:46	1
Total PCBs as DCB (Qualitative)	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		05/10/23 08:13	05/11/23 03:46	1

Lab Sample ID: LLCS 810-58455/2-A
Matrix: Water
Analysis Batch: 58571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58455

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (technical)	0.100	0.0789	J	ug/L		79	50 - 150

Lab Sample ID: LLCS 810-58455/3-A
Matrix: Water
Analysis Batch: 58571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 58455

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	0.500	0.490	J	ug/L		98	50 - 150

Lab Sample ID: 380-45203-1 MS
Matrix: Water
Analysis Batch: 58571

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA
Prep Batch: 58455

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	<0.50		3.00	3.02		ug/L		101	65 - 135

Lab Sample ID: 380-44935-AU-1-A MS
Matrix: Water
Analysis Batch: 58571

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 58455

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1248	<0.10		1.00	0.914		ug/L		91	65 - 135

Lab Sample ID: 810-61301-B-3-A DU
Matrix: Water
Analysis Batch: 58571

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 58455

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
PCB-1016	<0.080		<0.080		ug/L		NC	30
PCB-1221	<0.10		<0.10		ug/L		NC	30
PCB-1232	<0.10		<0.10		ug/L		NC	30
PCB-1242	<0.10		<0.10		ug/L		NC	30
PCB-1248	<0.10		<0.10		ug/L		NC	30

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 810-61301-B-3-A DU
Matrix: Water
Analysis Batch: 58571

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 58455

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
PCB-1254	<0.10		<0.10		ug/L		NC	30
PCB-1260	<0.10		<0.10		ug/L		NC	30
Chlordane (technical)	<0.10		<0.10		ug/L		NC	30
Toxaphene	<0.50		<0.50		ug/L		NC	30
Total PCBs as DCB (Qualitative)	<0.10		<0.10		ug/L		NC	
Polychlorinated biphenyls, Total	<0.10		<0.10		ug/L		NC	

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-38419/18
Matrix: Water
Analysis Batch: 38419

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

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Nitrate as N	<0.050		0.050	mg/L			04/27/23 14:25	1
Nitrite as N	<0.050		0.050	mg/L			04/27/23 14:25	1

Lab Sample ID: LCS 380-38419/21
Matrix: Water
Analysis Batch: 38419

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Nitrate as N	2.50	2.51		mg/L		101	90 - 110
Nitrite as N	1.00	1.02		mg/L		102	90 - 110

Lab Sample ID: LCSD 380-38419/22
Matrix: Water
Analysis Batch: 38419

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

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Nitrate as N	2.50	2.51		mg/L		100	90 - 110	0	20
Nitrite as N	1.00	1.06		mg/L		106	90 - 110	4	20

Lab Sample ID: MRL 380-38419/19
Matrix: Water
Analysis Batch: 38419

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Nitrate as N	0.0125	0.00931	J	mg/L		74	50 - 150
Nitrite as N	0.0125	0.0116	J	mg/L		92	50 - 150

Lab Sample ID: MRL 380-38419/20
Matrix: Water
Analysis Batch: 38419

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Nitrate as N	0.0500	0.0420	J	mg/L		84	50 - 150
Nitrite as N	0.0500	0.0525		mg/L		105	50 - 150

QC Sample Results

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

Job ID: 380-45203-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-45167-AR-1 MS
Matrix: Water
Analysis Batch: 38419

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.12		1.25	1.32		mg/L		97	80 - 120
Nitrite as N	<0.050		0.500	0.491		mg/L		98	80 - 120

Lab Sample ID: 380-45167-AR-1 MSD
Matrix: Water
Analysis Batch: 38419

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	0.12		1.25	1.32		mg/L		96	80 - 120	1	20
Nitrite as N	<0.050		0.500	0.479		mg/L		96	80 - 120	3	20

Lab Sample ID: MB 380-38420/18
Matrix: Water
Analysis Batch: 38420

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.50		0.50	mg/L			04/27/23 14:25	1
Sulfate	<0.25		0.25	mg/L			04/27/23 14:25	1

Lab Sample ID: LCS 380-38420/21
Matrix: Water
Analysis Batch: 38420

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	25.4		mg/L		102	90 - 110
Sulfate	50.0	51.0		mg/L		102	90 - 110

Lab Sample ID: LCSD 380-38420/22
Matrix: Water
Analysis Batch: 38420

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.0	25.4		mg/L		101	90 - 110	0	20
Sulfate	50.0	50.9		mg/L		102	90 - 110	0	20

Lab Sample ID: MRL 380-38420/19
Matrix: Water
Analysis Batch: 38420

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	0.118	J	mg/L		95	50 - 150
Sulfate	0.250	0.221	J	mg/L		88	50 - 150

Lab Sample ID: MRL 380-38420/20
Matrix: Water
Analysis Batch: 38420

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	0.483	J	mg/L		97	50 - 150
Sulfate	1.00	0.898		mg/L		90	50 - 150

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QC Sample Results

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

Job ID: 380-45203-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 380-45167-AR-1 MS
Matrix: Water
Analysis Batch: 38420

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.97		12.5	13.6		mg/L		101	80 - 120
Sulfate	2.2		25.0	27.7		mg/L		102	80 - 120

Lab Sample ID: 380-45167-AR-1 MSD
Matrix: Water
Analysis Batch: 38420

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	0.97		12.5	13.6		mg/L		101	80 - 120	1	20
Sulfate	2.2		25.0	27.6		mg/L		101	80 - 120	1	20

Lab Sample ID: MB 380-38465/4
Matrix: Water
Analysis Batch: 38465

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	<5.0		5.0	ug/L			04/28/23 16:06	1

Lab Sample ID: LCS 380-38465/5
Matrix: Water
Analysis Batch: 38465

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

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

Lab Sample ID: LCSD 380-38465/6
Matrix: Water
Analysis Batch: 38465

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	97.7		ug/L		98	90 - 110	0	10

Lab Sample ID: MRL 380-38465/3
Matrix: Water
Analysis Batch: 38465

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	4.71	J	ug/L		94	75 - 125

Lab Sample ID: 380-45203-1 MS
Matrix: Water
Analysis Batch: 38465

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	330		50.0	375	4	ug/L		98	80 - 120

QC Sample Results

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

Job ID: 380-45203-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-45203-1 MSD
Matrix: Water
Analysis Batch: 38465

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	330		50.0	373	4	ug/L		94	80 - 120	0	20

Lab Sample ID: MB 380-38684/4
Matrix: Water
Analysis Batch: 38684

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			05/01/23 09:52	1
Nitrite as N	<0.050		0.050	mg/L			05/01/23 09:52	1

Lab Sample ID: LCS 380-38684/7
Matrix: Water
Analysis Batch: 38684

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	2.57		mg/L		103	90 - 110
Nitrite as N	1.00	0.977		mg/L		98	90 - 110

Lab Sample ID: LCSD 380-38684/8
Matrix: Water
Analysis Batch: 38684

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	2.56		mg/L		103	90 - 110	0	20
Nitrite as N	1.00	0.973		mg/L		97	90 - 110	0	20

Lab Sample ID: MRL 380-38684/5
Matrix: Water
Analysis Batch: 38684

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	0.0117	J	mg/L		94	50 - 150
Nitrite as N	0.0125	0.0132	J	mg/L		106	50 - 150

Lab Sample ID: MRL 380-38684/6
Matrix: Water
Analysis Batch: 38684

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	0.0475	J	mg/L		95	50 - 150
Nitrite as N	0.0500	0.0504		mg/L		101	50 - 150

Lab Sample ID: 380-45508-A-1 MS
Matrix: Water
Analysis Batch: 38684

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	7.4		2.50	10.0		mg/L		105	80 - 120
Nitrite as N	<0.10	F1	1.00	0.769	F1	mg/L		77	80 - 120

QC Sample Results

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

Job ID: 380-45203-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-45508-A-1 MSD
Matrix: Water
Analysis Batch: 38684

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	7.4		2.50	10.0		mg/L		104	80 - 120	0	20
Nitrite as N	<0.10	F1	1.00	0.779	F1	mg/L		78	80 - 120	1	20

Lab Sample ID: MB 380-38685/4
Matrix: Water
Analysis Batch: 38685

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			05/01/23 09:52	1
Sulfate	<0.25		0.25	mg/L			05/01/23 09:52	1

Lab Sample ID: LCS 380-38685/7
Matrix: Water
Analysis Batch: 38685

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	26.3		mg/L		105	90 - 110
Sulfate	50.0	52.4		mg/L		105	90 - 110

Lab Sample ID: LCSD 380-38685/8
Matrix: Water
Analysis Batch: 38685

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	26.3		mg/L		105	90 - 110	0	20
Sulfate	50.0	52.2		mg/L		104	90 - 110	0	20

Lab Sample ID: MRL 380-38685/5
Matrix: Water
Analysis Batch: 38685

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	0.134	J	mg/L		107	50 - 150
Sulfate	0.250	0.240	J	mg/L		96	50 - 150

Lab Sample ID: MRL 380-38685/6
Matrix: Water
Analysis Batch: 38685

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	0.449	J	mg/L		90	50 - 150
Sulfate	1.00	0.976		mg/L		98	50 - 150

Lab Sample ID: 380-45508-A-1 MS
Matrix: Water
Analysis Batch: 38685

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	88		25.0	110	E	mg/L		90	80 - 120
Sulfate	73		50.0	125		mg/L		105	80 - 120

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QC Sample Results

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

Job ID: 380-45203-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 380-45508-A-1 MSD
Matrix: Water
Analysis Batch: 38685

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	88		25.0	110	E	mg/L		90	80 - 120	0	20
Sulfate	73		50.0	126		mg/L		105	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 380-38643/18
Matrix: Water
Analysis Batch: 38643

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			05/01/23 11:39	1
Magnesium	<0.10		0.10	mg/L			05/01/23 11:39	1
Potassium	<1.0		1.0	mg/L			05/01/23 11:39	1
Sodium	<1.0		1.0	mg/L			05/01/23 11:39	1

Lab Sample ID: LCS 380-38643/20
Matrix: Water
Analysis Batch: 38643

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	50.0	50.5		mg/L		101	85 - 115
Magnesium	20.0	19.9		mg/L		100	85 - 115
Potassium	20.0	20.0		mg/L		100	85 - 115
Sodium	50.0	49.7		mg/L		99	85 - 115

Lab Sample ID: LCSD 380-38643/21
Matrix: Water
Analysis Batch: 38643

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	50.0	50.9		mg/L		102	85 - 115	1	20
Magnesium	20.0	20.0		mg/L		100	85 - 115	0	20
Potassium	20.0	20.1		mg/L		100	85 - 115	0	20
Sodium	50.0	50.1		mg/L		100	85 - 115	1	20

Lab Sample ID: LLCS 380-38643/19
Matrix: Water
Analysis Batch: 38643

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	1.04		mg/L		104	50 - 150
Magnesium	0.100	0.100		mg/L		100	50 - 150
Potassium	1.00	0.679	J	mg/L		68	50 - 150
Sodium	1.00	0.999	J	mg/L		100	50 - 150

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 380-45001-B-2 MS
Matrix: Water
Analysis Batch: 38643

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	50		50.0	101		mg/L		101	70 - 130
Magnesium	5.1		20.0	25.9		mg/L		104	70 - 130
Potassium	1.8		20.0	23.7		mg/L		109	70 - 130
Sodium	10		50.0	60.6		mg/L		101	70 - 130

Lab Sample ID: 380-45001-B-2 MSD
Matrix: Water
Analysis Batch: 38643

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	50		50.0	102		mg/L		104	70 - 130	1	20
Magnesium	5.1		20.0	26.3		mg/L		106	70 - 130	1	20
Potassium	1.8		20.0	24.0		mg/L		111	70 - 130	1	20
Sodium	10		50.0	61.5		mg/L		103	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 380-38714/1-A
Matrix: Water
Analysis Batch: 39001

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Arsenic	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Beryllium	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Cadmium	<0.50		0.50	ug/L		05/02/23 08:22	05/03/23 16:00	1
Chromium	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Copper	<2.0		2.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Lead	<0.50		0.50	ug/L		05/02/23 08:22	05/03/23 16:00	1
Nickel	<5.0		5.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Selenium	<5.0		5.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Silver	<0.50		0.50	ug/L		05/02/23 08:22	05/03/23 16:00	1
Thallium	<1.0		1.0	ug/L		05/02/23 08:22	05/03/23 16:00	1
Zinc	<20		20	ug/L		05/02/23 08:22	05/03/23 16:00	1

Lab Sample ID: LCS 380-38714/3-A
Matrix: Water
Analysis Batch: 39001

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	51.9		ug/L		104	85 - 115
Arsenic	50.0	53.6		ug/L		107	85 - 115
Beryllium	25.0	24.9		ug/L		100	85 - 115
Cadmium	25.0	25.5		ug/L		102	85 - 115
Chromium	50.0	52.3		ug/L		105	85 - 115
Copper	50.0	51.4		ug/L		103	85 - 115
Lead	50.0	52.4		ug/L		105	85 - 115
Nickel	50.0	50.4		ug/L		101	85 - 115
Selenium	50.0	52.9		ug/L		106	85 - 115

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: LCS 380-38714/3-A
Matrix: Water
Analysis Batch: 39001

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	25.0	25.1		ug/L		100	85 - 115
Thallium	50.0	51.6		ug/L		103	85 - 115
Zinc	50.0	51.3		ug/L		103	85 - 115

Lab Sample ID: LCSD 380-38714/4-A
Matrix: Water
Analysis Batch: 39001

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	52.0		ug/L		104	85 - 115	0	20
Arsenic	50.0	52.4		ug/L		105	85 - 115	2	20
Beryllium	25.0	24.8		ug/L		99	85 - 115	1	20
Cadmium	25.0	25.5		ug/L		102	85 - 115	0	20
Chromium	50.0	50.8		ug/L		102	85 - 115	3	20
Copper	50.0	50.5		ug/L		101	85 - 115	2	20
Lead	50.0	52.1		ug/L		104	85 - 115	1	20
Nickel	50.0	49.5		ug/L		99	85 - 115	2	20
Selenium	50.0	52.0		ug/L		104	85 - 115	2	20
Silver	25.0	24.8		ug/L		99	85 - 115	1	20
Thallium	50.0	51.0		ug/L		102	85 - 115	1	20
Zinc	50.0	50.0		ug/L		100	85 - 115	3	20

Lab Sample ID: LLCS 380-38714/2-A
Matrix: Water
Analysis Batch: 39001

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	1.01		ug/L		101	50 - 150
Arsenic	1.00	1.10		ug/L		110	50 - 150
Beryllium	1.00	1.00		ug/L		100	50 - 150
Cadmium	0.500	0.532		ug/L		106	50 - 150
Chromium	1.00	<0.80		ug/L		74	50 - 150
Copper	2.00	2.00		ug/L		100	50 - 150
Lead	0.500	0.519		ug/L		104	50 - 150
Nickel	5.00	4.85	J	ug/L		97	50 - 150
Selenium	5.00	5.16		ug/L		103	50 - 150
Silver	0.500	0.415	J	ug/L		83	50 - 150
Thallium	1.00	1.01		ug/L		101	50 - 150
Zinc	20.0	20.1		ug/L		100	50 - 150

Lab Sample ID: 380-45203-1 MS
Matrix: Water
Analysis Batch: 39001

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.0		50.0	53.6		ug/L		107	70 - 130
Arsenic	<1.0		50.0	53.5		ug/L		107	70 - 130
Beryllium	<1.0		25.0	26.0		ug/L		104	70 - 130
Cadmium	<0.50		25.0	25.5		ug/L		102	70 - 130

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 380-45203-1 MS
Matrix: Water
Analysis Batch: 39001

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	2.2		50.0	52.8		ug/L		101	70 - 130
Copper	<2.0		50.0	49.9		ug/L		97	70 - 130
Lead	<0.50		50.0	49.3		ug/L		99	70 - 130
Nickel	<5.0		50.0	48.6		ug/L		97	70 - 130
Selenium	<5.0		50.0	51.6		ug/L		103	70 - 130
Silver	<0.50	^2	25.0	24.4		ug/L		96	70 - 130
Thallium	<1.0		50.0	48.4		ug/L		97	70 - 130
Zinc	<20		50.0	59.6		ug/L		97	70 - 130

Lab Sample ID: 380-45203-1 MSD
Matrix: Water
Analysis Batch: 39001

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total Recoverable
Prep Batch: 38714

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.0		50.0	53.7		ug/L		107	70 - 130	0	20
Arsenic	<1.0		50.0	54.2		ug/L		108	70 - 130	1	20
Beryllium	<1.0		25.0	26.3		ug/L		105	70 - 130	1	20
Cadmium	<0.50		25.0	25.2		ug/L		101	70 - 130	1	20
Chromium	2.2		50.0	54.9		ug/L		105	70 - 130	4	20
Copper	<2.0		50.0	50.5		ug/L		98	70 - 130	1	20
Lead	<0.50		50.0	49.7		ug/L		99	70 - 130	1	20
Nickel	<5.0		50.0	49.2		ug/L		98	70 - 130	1	20
Selenium	<5.0		50.0	52.3		ug/L		105	70 - 130	1	20
Silver	<0.50	^2	25.0	24.6		ug/L		97	70 - 130	1	20
Thallium	<1.0		50.0	49.8		ug/L		100	70 - 130	3	20
Zinc	<20		50.0	60.7		ug/L		99	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 810-57460/1-A
Matrix: Water
Analysis Batch: 57515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 57460

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		05/02/23 12:26	05/02/23 16:04	1

Lab Sample ID: LCS 810-57460/3-A
Matrix: Water
Analysis Batch: 57515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57460

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	0.951		ug/L		95	85 - 115

Lab Sample ID: LLCS 810-57460/2-A
Matrix: Water
Analysis Batch: 57515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 57460

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.100	0.0953	J	ug/L		95	50 - 150

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QC Sample Results

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

Job ID: 380-45203-1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 810-60961-A-1-B MS
Matrix: Water
Analysis Batch: 57515

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 57460

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.10		1.00	0.958		ug/L		96	70 - 130

Lab Sample ID: 810-60961-A-1-C MSD
Matrix: Water
Analysis Batch: 57515

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 57460

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	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 380-38730/1
Matrix: Water
Analysis Batch: 38730

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
A kalinity	<2.0		2.0	mg/L			05/01/23 13:50	1
Bicarbonate Alkalinity as CaCO3	2.25	B	2.0	mg/L			05/01/23 13:50	1
Carbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			05/01/23 13:50	1

Lab Sample ID: LCS 380-38730/3
Matrix: Water
Analysis Batch: 38730

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	100	96.5		mg/L		96	90 - 110

Lab Sample ID: LCSD 380-38730/18
Matrix: Water
Analysis Batch: 38730

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
A kalinity	100	96.3		mg/L		96	90 - 110	0	20

Lab Sample ID: LLCS 380-38730/4
Matrix: Water
Analysis Batch: 38730

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: MRL 380-38730/2
Matrix: Water
Analysis Batch: 38730

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

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

QC Sample Results

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

Job ID: 380-45203-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 380-45203-1 MS
Matrix: Water
Analysis Batch: 38730

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	58		100	149		mg/L		91	80 - 120

Lab Sample ID: 380-45203-1 MSD
Matrix: Water
Analysis Batch: 38730

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	58		100	148		mg/L		91	80 - 120	0	20

Lab Sample ID: 380-45203-1 DU
Matrix: Water
Analysis Batch: 38730

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
A kalinity	58		58.2		mg/L		0.7	20
Bicarbonate Alkalinity as CaCO3	58	B ^2	58.2	B	mg/L		0.7	20
Carbonate Alkalinity as CaCO3	<2.0		<2.0		mg/L		NC	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 380-38733/1
Matrix: Water
Analysis Batch: 38733

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			05/01/23 13:50	1

Lab Sample ID: LCSD 380-38733/15
Matrix: Water
Analysis Batch: 38733

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	1000		umhos/cm					

Lab Sample ID: MRL 380-38733/3
Matrix: Water
Analysis Batch: 38733

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	2.00	1.80	J	umhos/cm		90	50 - 150

Lab Sample ID: 380-45203-1 DU
Matrix: Water
Analysis Batch: 38733

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	460		457		umhos/cm		0.07	20

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MB 380-38554/1
Matrix: Water
Analysis Batch: 38554

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10	mg/L			04/30/23 20:01	1

Lab Sample ID: HLCS 380-38554/5
Matrix: Water
Analysis Batch: 38554

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	656		mg/L		94	80 - 114

Lab Sample ID: LCS 380-38554/4
Matrix: Water
Analysis Batch: 38554

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	186		mg/L		106	80 - 114

Lab Sample ID: MRL 380-38554/2
Matrix: Water
Analysis Batch: 38554

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

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

Lab Sample ID: MRL 380-38554/3
Matrix: Water
Analysis Batch: 38554

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	10.0	8.00	J	mg/L		80	50 - 150

Lab Sample ID: 380-45300-I-1 DU
Matrix: Water
Analysis Batch: 38554

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	430		432		mg/L		1	10

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-38729/40
Matrix: Water
Analysis Batch: 38729

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			05/01/23 17:16	1

QC Sample Results

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

Job ID: 380-45203-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: MB 380-38729/6
Matrix: Water
Analysis Batch: 38729

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			05/01/23 14:55	1

Lab Sample ID: LCS 380-38729/42
Matrix: Water
Analysis Batch: 38729

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	0.976		mg/L		98	90 - 110

Lab Sample ID: LCSD 380-38729/43
Matrix: Water
Analysis Batch: 38729

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.00	0.973		mg/L		97	90 - 110	0	10

Lab Sample ID: MRL 380-38729/41
Matrix: Water
Analysis Batch: 38729

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	0.0465	J	mg/L		93	50 - 150

Lab Sample ID: MRL 380-38729/7
Matrix: Water
Analysis Batch: 38729

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	0.0474	J	mg/L		95	50 - 150

Lab Sample ID: 380-45154-AM-1 MS
Matrix: Water
Analysis Batch: 38729

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	0.63		1.00	1.66		mg/L		102	80 - 120

Lab Sample ID: 380-45154-AM-1 MSD
Matrix: Water
Analysis Batch: 38729

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	0.63		1.00	1.67		mg/L		103	80 - 120	0	20

QC Sample Results

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

Job ID: 380-45203-1

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-38736/4
Matrix: Water
Analysis Batch: 38736

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.9			SU			05/01/23 13:50	1

Lab Sample ID: LCS 380-38736/5
Matrix: Water
Analysis Batch: 38736

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 380-38736/17
Matrix: Water
Analysis Batch: 38736

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

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

Lab Sample ID: 380-45203-1 DU
Matrix: Water
Analysis Batch: 38736

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 380-38801/1
Matrix: Water
Analysis Batch: 38801

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			05/02/23 13:40	1

Lab Sample ID: LCS 380-38801/4
Matrix: Water
Analysis Batch: 38801

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	0.264		mg/L		106	90 - 110

Lab Sample ID: LCSD 380-38801/10
Matrix: Water
Analysis Batch: 38801

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	0.265		mg/L		106	90 - 110	0	20

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: MRL 380-38801/2
Matrix: Water
Analysis Batch: 38801

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	0.0590		mg/L		118	50 - 150

Lab Sample ID: MRL 380-38801/9
Matrix: Water
Analysis Batch: 38801

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	0.0530		mg/L		106	50 - 150

Lab Sample ID: 380-45203-1 MS
Matrix: Water
Analysis Batch: 38801

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	<0.050		0.250	0.238		mg/L		95	80 - 120

Lab Sample ID: 380-45203-1 MSD
Matrix: Water
Analysis Batch: 38801

Client Sample ID: AIEA WELLS P2 (260)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	<0.050		0.250	0.244		mg/L		98	80 - 120	2	20

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

Lab Sample ID: 106291-B1
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Chlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Methylphenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Nitroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
2-Nitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
3-Nitroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1

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QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 106291-B1
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
4-Chloroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
4-Nitroaniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
4-Nitrophenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Acenaphthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Acenaphthylene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Aniline	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Anthracene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzidine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzoic Acid	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
Biphenyl	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Chrysene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Dibenzo[a,i]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Dibenzofuran	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Dibenzothiophene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Fluoranthene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Fluorene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Hexachloroethane	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Naphthalene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Nitrobenzene	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Pentachlorophenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Perylene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Phenanthrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1
Phenol	ND		0.2	0.1	µg/L		05/01/23 00:00	05/25/23 19:07	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		05/01/23 00:00	05/25/23 19:07	1
Pyrene	ND		0.005	0.001	µg/L		05/01/23 00:00	05/25/23 19:07	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	91		30 - 130	05/01/23 00:00	05/25/23 19:07	1
(d10-Acenaphthene)	87		27 - 133	05/01/23 00:00	05/25/23 19:07	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 106291-B1
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41056_P

Surrogate	Blank		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
(d10-Phenanthrene)	84		43 - 129	05/01/23 00:00	05/25/23 19:07	1
(d12-Chrysene)	98		52 - 144	05/01/23 00:00	05/25/23 19:07	1
(d12-Perylene)	103		36 - 161	05/01/23 00:00	05/25/23 19:07	1
(d5-Phenol)	99		0 - 130	05/01/23 00:00	05/25/23 19:07	1
(d8-Naphthalene)	86		25 - 125	05/01/23 00:00	05/25/23 19:07	1

Lab Sample ID: 106291-BS1
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylphenanthrene	500	416		µg/L		83	66 - 127
2,3,5-Trimethylnaphthalene	500	400		µg/L		80	55 - 122
2,4,5-Trichlorophenol	1000	646		µg/L		65	30 - 130
2,4,6-Trichlorophenol	1000	660		µg/L		66	30 - 130
2,4-Dichlorophenol	1000	649		µg/L		65	51 - 117
2,4-Dinitrophenol	1000	710		µg/L		71	0 - 152
2,6-Dichlorophenol	0.5	0.329		µg/L		66	30 - 130
2,6-Dimethylnaphthalene	500	394		µg/L		79	48 - 120
2,6-Di-tert-butyl-4-methylphenol	1	1.17		µg/L		117	50 - 150
2,6-Di-tert-butylphenol	1	1.02		µg/L		102	50 - 150
2-Chloronaphthalene	1	0.703		µg/L		70	53 - 130
2-Chlorophenol	1000	637		µg/L		64	41 - 120
2-Methyl-4,6-dinitrophenol	1000	750		µg/L		75	0 - 141
2-Methylnaphthalene	1500	1230		µg/L		82	47 - 130
2-Methylphenol	1000	672		µg/L		67	40 - 117
2-Nitroaniline	1	0.723		µg/L		72	69 - 114
2-Nitrophenol	1000	588		µg/L		59	40 - 117
3+4-Methylphenol	1000	656		µg/L		66	0 - 130
3-Nitroaniline	1	0.724		µg/L		72	23 - 137
4-Bromophenylphenyl ether	1	0.801		µg/L		80	61 - 132
4-Chloro-3-methylphenol	1000	1150		µg/L		115	51 - 128
4-Chloroaniline	1	0.649		µg/L		65	50 - 150
4-Chlorophenylphenyl ether	1	0.772		µg/L		77	63 - 130
4-Nitroaniline	1	0.822		µg/L		82	10 - 159
4-Nitrophenol	1000	729		µg/L		73	10 - 164
6-tert-butyl-2,4-dimethylphenol	1	0.698		µg/L		70	50 - 150
Acenaphthene	1500	1250		µg/L		83	53 - 131
Acenaphthylene	1500	1260		µg/L		84	43 - 140
Aniline	0.25	0.272		µg/L		109	50 - 150
Anthracene	1500	1290		µg/L		86	58 - 135
Benz[a]anthracene	1500	1460		µg/L		97	55 - 145
Benzidine	1	0.0194		µg/L		2	0 - 125
Benzo[a]pyrene	1500	1260		µg/L		84	51 - 143
Benzo[b]fluoranthene	1500	1320		µg/L		88	46 - 165
Benzo[e]pyrene	500	394		µg/L		79	42 - 152
Benzo[g,h,i]perylene	1500	1380		µg/L		92	63 - 133

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 106291-BS1
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[k]fluoranthene	1500	1450		µg/L		97	56 - 145
Benzoic Acid	1	0.592		µg/L		59	2 - 145
Benzyl Alcohol	1	0.733		µg/L		73	43 - 148
Biphenyl	500	405		µg/L		81	56 - 119
Bis(2-Chloroethoxy) methane	1	0.705		µg/L		70	66 - 122
Bis(2-Chloroethyl) ether	1	0.471		µg/L		47	43 - 127
Bis(2-Chloroisopropyl) ether	8	8.67		µg/L		108	49 - 128
Chrysene	1500	1350		µg/L		90	56 - 141
Dibenz[a,h]anthracene	1500	1360		µg/L		91	55 - 150
Dibenzo[a,l]pyrene	0.5	0.4		µg/L		80	50 - 150
Dibenzofuran	1	0.746		µg/L		75	50 - 150
Dibenzothiophene	500	426		µg/L		85	46 - 126
Disalicylidenepropanediamine	50	26.5		µg/L		53	50 - 150
Fluoranthene	1500	1380		µg/L		92	60 - 146
Fluorene	1500	1300		µg/L		87	58 - 131
Hexachloroethane	1	0.649		µg/L		65	27 - 130
Indeno[1,2,3-cd]pyrene	1500	1550		µg/L		103	50 - 151
Naphthalene	1500	1200		µg/L		80	41 - 126
Nitrobenzene	1	0.631		µg/L		63	54 - 111
N-Nitrosodi-n-propylamine	1	0.683		µg/L		68	61 - 152
N-Nitrosodiphenylamine	1	0.768		µg/L		77	49 - 142
Pentachlorophenol	1000	766		µg/L		77	36 - 111
Perylene	500	429		µg/L		86	48 - 141
Phenanthrene	1500	1370		µg/L		91	67 - 127
Phenol	1000	540		µg/L		54	29 - 114
p-tert-Butylphenol	1	0.786		µg/L		79	50 - 150
Pyrene	1500	1370		µg/L		91	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(2,4,6-Tribromophenol)	92		30 - 130
(d10-Acenaphthene)	81		27 - 133
(d10-Phenanthrene)	99		43 - 129
(d12-Chrysene)	93		52 - 144
(d12-Perylene)	86		36 - 161
(d5-Phenol)	104		0 - 130
(d8-Naphthalene)	79		25 - 125

Lab Sample ID: 106291-BS2
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	500	421		µg/L		84	31 - 128	5	30
1-Methylphenanthrene	500	412		µg/L		82	66 - 127	1	30
2,3,5-Trimethylnaphthalene	500	410		µg/L		82	55 - 122	2	30
2,4,5-Trichlorophenol	1000	737		µg/L		74	30 - 130	13	30
2,4,6-Trichlorophenol	1000	698		µg/L		70	30 - 130	6	30
2,4-Dichlorophenol	1000	712		µg/L		71	51 - 117	9	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 106291-BS2
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
2,4-Dinitrophenol	1000	813		µg/L		81	0 - 152	13	30	
2,6-Dichlorophenol	0.5	0.347		µg/L		69	30 - 130	4	30	
2,6-Dimethylnaphthalene	500	415		µg/L		83	48 - 120	5	30	
2,6-Di-tert-butyl-4-methylphenol	1	1.17		µg/L		117	50 - 150	0	30	
2,6-Di-tert-butylphenol	1	1.02		µg/L		102	50 - 150	0	30	
2-Chloronaphthalene	1	0.748		µg/L		75	53 - 130	7	30	
2-Chlorophenol	1000	709		µg/L		71	41 - 120	10	30	
2-Methyl-4,6-dinitrophenol	1000	839		µg/L		84	0 - 141	11	30	
2-Methylnaphthalene	1500	1290		µg/L		86	47 - 130	5	30	
2-Methylphenol	1000	756		µg/L		76	40 - 117	13	30	
2-Nitroaniline	1	0.804		µg/L		80	69 - 114	11	30	
2-Nitrophenol	1000	707		µg/L		71	40 - 117	18	30	
3+4-Methylphenol	1000	762		µg/L		76	0 - 130	14	30	
3-Nitroaniline	1	0.78		µg/L		78	23 - 137	8	30	
4-Bromophenylphenyl ether	1	0.814		µg/L		81	61 - 132	1	30	
4-Chloro-3-methylphenol	1000	1220		µg/L		122	51 - 128	6	30	
4-Chloroaniline	1	0.613		µg/L		61	50 - 150	6	30	
4-Chlorophenylphenyl ether	1	0.785		µg/L		79	63 - 130	1	30	
4-Nitroaniline	1	0.899		µg/L		90	10 - 159	9	30	
4-Nitrophenol	1000	758		µg/L		76	10 - 164	4	30	
6-tert-butyl-2,4-dimethylphenol	1	0.723		µg/L		72	50 - 150	3	30	
Acenaphthene	1500	1320		µg/L		88	53 - 131	6	30	
Acenaphthylene	1500	1330		µg/L		89	43 - 140	6	30	
Aniline	0.25	0.239		µg/L		96	50 - 150	13	30	
Anthracene	1500	1320		µg/L		88	58 - 135	2	30	
Benz[a]anthracene	1500	1480		µg/L		99	55 - 145	2	30	
Benzidine	1	0.0211		µg/L		2	0 - 125	0	30	
Benzo[a]pyrene	1500	1270		µg/L		85	51 - 143	1	30	
Benzo[b]fluoranthene	1500	1330		µg/L		89	46 - 165	1	30	
Benzo[e]pyrene	500	389		µg/L		78	42 - 152	1	30	
Benzo[g,h,i]perylene	1500	1380		µg/L		92	63 - 133	0	30	
Benzo[k]fluoranthene	1500	1460		µg/L		97	56 - 145	0	30	
Benzoic Acid	1	0.762		µg/L		76	2 - 145	25	30	
Benzyl Alcohol	1	0.774		µg/L		77	43 - 148	5	30	
Biphenyl	500	434		µg/L		87	56 - 119	7	30	
Bis(2-Chloroethoxy) methane	1	0.759		µg/L		76	66 - 122	8	30	
Bis(2-Chloroethyl) ether	1	0.524		µg/L		52	43 - 127	10	30	
Bis(2-Chloroisopropyl) ether	8	9.76		µg/L		122	49 - 128	12	30	
Chrysene	1500	1380		µg/L		92	56 - 141	2	30	
Dibenz[a,h]anthracene	1500	1380		µg/L		92	55 - 150	1	30	
Dibenzo[a,l]pyrene	0.5	0.402		µg/L		80	50 - 150	0	30	
Dibenzofuran	1	0.773		µg/L		77	50 - 150	3	30	
Dibenzothiophene	500	439		µg/L		88	46 - 126	3	30	
Disalicylidenepranediamine	50	26.4		µg/L		53	50 - 150	0	30	
Fluoranthene	1500	1360		µg/L		91	60 - 146	1	30	
Fluorene	1500	1340		µg/L		89	58 - 131	2	30	
Hexachloroethane	1	0.707		µg/L		71	27 - 130	9	30	
Indeno[1,2,3-cd]pyrene	1500	1530		µg/L		102	50 - 151	1	30	
Naphthalene	1500	1300		µg/L		87	41 - 126	8	30	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 106291-BS2
Matrix: BlankMatrix
Analysis Batch: O-41056

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41056_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrobenzene	1	0.708		µg/L		71	54 - 111	12	30
N-Nitrosodi-n-propylamine	1	0.753		µg/L		75	61 - 152	10	30
N-Nitrosodiphenylamine	1	0.823		µg/L		82	49 - 142	6	30
Pentachlorophenol	1000	800		µg/L		80	36 - 111	4	30
Perylene	500	429		µg/L		86	48 - 141	0	30
Phenanthrene	1500	1390		µg/L		93	67 - 127	2	30
Phenol	1000	623		µg/L		62	29 - 114	14	30
p-tert-Butylphenol	1	0.817		µg/L		82	50 - 150	4	30
Pyrene	1500	1350		µg/L		90	54 - 156	1	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(2,4,6-Tribromophenol)	93		30 - 130
(d10-Acenaphthene)	85		27 - 133
(d10-Phenanthrene)	99		43 - 129
(d12-Chrysene)	94		52 - 144
(d12-Perylene)	87		36 - 161
(d5-Phenol)	116		0 - 130
(d8-Naphthalene)	84		25 - 125

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23MEE001WB
Matrix: WATER
Analysis Batch: 23MEE001W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			05/01/23 14:30	1

Lab Sample ID: 23MEE001WL
Matrix: WATER
Analysis Batch: 23MEE001W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
ETHANOL	10000	9570		ug/L		96	60 - 130

Lab Sample ID: 23D320-01M
Matrix: WATER
Analysis Batch: 23MEE001W

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
ETHANOL	ND		10000	9890		ug/L		99	60 - 130

Lab Sample ID: 23D320-01S
Matrix: WATER
Analysis Batch: 23MEE001W

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
ETHANOL	ND		10000	9310		ug/L		93	60 - 130	6	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 23VGH7E01B
Matrix: WATER
Analysis Batch: 23VGH7E01

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			05/01/23 12:56	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								05/01/23 12:56	1

Lab Sample ID: 23VGH7E01L
Matrix: WATER
Analysis Batch: 23VGH7E01

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.500	0.480		mg/L		96	60 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	117		70 - 130				

Lab Sample ID: 23D320-01M
Matrix: WATER
Analysis Batch: 23VGH7E01

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	ND		0.500	0.498		mg/L		100	50 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
BROMOFLUOROBENZENE	118		60 - 140						

Lab Sample ID: 23D320-01S
Matrix: WATER
Analysis Batch: 23VGH7E01

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.500	0.546		mg/L		109	50 - 130	9	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
BROMOFLUOROBENZENE	118		60 - 140								

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

Lab Sample ID: 23DSE005WB
Matrix: WATER
Analysis Batch: 23DSE005W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			05/04/23 13:29	1
JP5	ND	U	0.050		mg/L			05/04/23 13:29	1
JP8	ND	U	0.050		mg/L			05/04/23 13:29	1
MOTOR OIL	ND	U	0.050		mg/L			05/04/23 13:29	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 23DSE005WB
Matrix: WATER
Analysis Batch: 23DSE005W

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

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOBENZENE					05/04/23 13:29	1
HEXACOSANE					05/04/23 13:29	1

Lab Sample ID: 23DSE005WL
Matrix: WATER
Analysis Batch: 23DSE005W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.50	2.63		mg/L		105	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	88		60 - 130
HEXACOSANE	108		60 - 130

Lab Sample ID: 23J5E005WL
Matrix: WATER
Analysis Batch: 23DSE005W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.50	2.41		mg/L		96	30 - 160

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	89		60 - 130
HEXACOSANE	101		60 - 130

Lab Sample ID: 23J8E005WL
Matrix: WATER
Analysis Batch: 23DSE005W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP8	2.50	2.76		mg/L		110	30 - 160

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	101		60 - 130
HEXACOSANE	104		60 - 130

Lab Sample ID: 23D320-01M
Matrix: WATER
Analysis Batch: 23DSE005W

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
DIESEL	ND		2.75	2.77		mg/L		101	50 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
BROMOBENZENE	83		60 - 130
HEXACOSANE	103		60 - 130

QC Sample Results

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

Job ID: 380-45203-1

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

Lab Sample ID: 23D320-01M
Matrix: WATER
Analysis Batch: 23DSE005W

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
JP5	ND		2.65	2.54		mg/L		96	30 - 160
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
BROMOBENZENE	88		60 - 130						
HEXACOSANE	100		60 - 130						

Lab Sample ID: 23D320-01S
Matrix: WATER
Analysis Batch: 23DSE005W

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
DIESEL	ND		2.80	2.96		mg/L		106	50 - 130	7	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
BROMOBENZENE	89		60 - 130								
HEXACOSANE	109		60 - 130								

Lab Sample ID: 23D320-01S
Matrix: WATER
Analysis Batch: 23DSE005W

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
JP5	ND		2.72	2.67		mg/L		98	30 - 160	5	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
BROMOBENZENE	86		60 - 130								
HEXACOSANE	98		60 - 130								

QC Association Summary

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

Job ID: 380-45203-1

GC/MS VOA

Analysis Batch: 38764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	524.2	
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	Total/NA	Water	524.2	
MB 380-38764/5	Method Blank	Total/NA	Water	524.2	
LCS 380-38764/2	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-38764/3	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-38764/4	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 38767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	524.2	
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	Total/NA	Water	524.2	
MB 380-38767/8	Method Blank	Total/NA	Water	524.2	
380-45841-A-1 LCS	Lab Control Sample	Total/NA	Water	524.2	
380-45841-A-2 LCS	Lab Control Sample	Total/NA	Water	524.2	
LCS 380-38767/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-38767/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-38767/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-38767/4	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 39356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	524.2	
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	Total/NA	Water	524.2	

GC/MS Semi VOA

Prep Batch: 58439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	525.2	
MB 810-58439/1-A	Method Blank	Total/NA	Water	525.2	
LCS 810-58439/2-A	Lab Control Sample	Total/NA	Water	525.2	
LLCS 810-58439/3-A	Lab Control Sample	Total/NA	Water	525.2	
810-61304-F-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-44786-BE-1-A DU	Duplicate	Total/NA	Water	525.2	

Prep Batch: 58441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 810-58441/1-A	Method Blank	Total/NA	Water	525.2	
LLCS 810-58441/3-A	Lab Control Sample	Total/NA	Water	525.2	

Analysis Batch: 58552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 810-58441/1-A	Method Blank	Total/NA	Water	525.2 LL	58441

Analysis Batch: 58555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	525.2 LL	58439
MB 810-58439/1-A	Method Blank	Total/NA	Water	525.2 LL	58439
LCS 810-58439/2-A	Lab Control Sample	Total/NA	Water	525.2 LL	58439
LLCS 810-58439/3-A	Lab Control Sample	Total/NA	Water	525.2 LL	58439
LLCS 810-58441/3-A	Lab Control Sample	Total/NA	Water	525.2 LL	58441

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-45203-1

GC/MS Semi VOA (Continued)

Analysis Batch: 58555 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
810-61304-F-1-A MS	Matrix Spike	Total/NA	Water	525.2 LL	58439
380-44786-BE-1-A DU	Duplicate	Total/NA	Water	525.2 LL	58439

GC Semi VOA

Prep Batch: 38656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	504.1	
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	Total/NA	Water	504.1	
MBL 380-38656/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-38656/3-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-38656/1-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-38656/2-A	Lab Control Sample	Total/NA	Water	504.1	
380-45049-H-2-A MS	Matrix Spike	Total/NA	Water	504.1	
380-45049-J-1-A DU	Duplicate	Total/NA	Water	504.1	

Analysis Batch: 38952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	504.1	38656
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	Total/NA	Water	504.1	38656
MBL 380-38656/4-A	Method Blank	Total/NA	Water	504.1	38656
LCS 380-38656/3-A	Lab Control Sample	Total/NA	Water	504.1	38656
MRL 380-38656/1-A	Lab Control Sample	Total/NA	Water	504.1	38656
MRL 380-38656/2-A	Lab Control Sample	Total/NA	Water	504.1	38656
380-45049-H-2-A MS	Matrix Spike	Total/NA	Water	504.1	38656
380-45049-J-1-A DU	Duplicate	Total/NA	Water	504.1	38656

Prep Batch: 58455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	505	
MB 810-58455/1-A	Method Blank	Total/NA	Water	505	
LLCS 810-58455/2-A	Lab Control Sample	Total/NA	Water	505	
LLCS 810-58455/3-A	Lab Control Sample	Total/NA	Water	505	
380-45203-1 MS	AIEA WELLS P2 (260)	Total/NA	Water	505	
380-44935-AU-1-A MS	Matrix Spike	Total/NA	Water	505	
810-61301-B-3-A DU	Duplicate	Total/NA	Water	505	

Analysis Batch: 58571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	505	58455
MB 810-58455/1-A	Method Blank	Total/NA	Water	505	58455
LLCS 810-58455/2-A	Lab Control Sample	Total/NA	Water	505	58455
LLCS 810-58455/3-A	Lab Control Sample	Total/NA	Water	505	58455
380-45203-1 MS	AIEA WELLS P2 (260)	Total/NA	Water	505	58455
380-44935-AU-1-A MS	Matrix Spike	Total/NA	Water	505	58455
810-61301-B-3-A DU	Duplicate	Total/NA	Water	505	58455

HPLC/IC

Analysis Batch: 38419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	300.0	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-45203-1

HPLC/IC (Continued)

Analysis Batch: 38419 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-38419/18	Method Blank	Total/NA	Water	300.0	
LCS 380-38419/21	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-38419/22	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-38419/19	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-38419/20	Lab Control Sample	Total/NA	Water	300.0	
380-45167-AR-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-45167-AR-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 38420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	300.0	
MB 380-38420/18	Method Blank	Total/NA	Water	300.0	
LCS 380-38420/21	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-38420/22	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-38420/19	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-38420/20	Lab Control Sample	Total/NA	Water	300.0	
380-45167-AR-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-45167-AR-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 38465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	300.0	
MB 380-38465/4	Method Blank	Total/NA	Water	300.0	
LCS 380-38465/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-38465/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-38465/3	Lab Control Sample	Total/NA	Water	300.0	
380-45203-1 MS	AIEA WELLS P2 (260)	Total/NA	Water	300.0	
380-45203-1 MSD	AIEA WELLS P2 (260)	Total/NA	Water	300.0	

Analysis Batch: 38684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-38684/4	Method Blank	Total/NA	Water	300.0	
LCS 380-38684/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-38684/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-38684/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-38684/6	Lab Control Sample	Total/NA	Water	300.0	
380-45508-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-45508-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 38685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	300.0	
MB 380-38685/4	Method Blank	Total/NA	Water	300.0	
LCS 380-38685/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-38685/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-38685/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-38685/6	Lab Control Sample	Total/NA	Water	300.0	
380-45508-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-45508-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

QC Association Summary

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

Job ID: 380-45203-1

Metals

Analysis Batch: 38643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	200.7 Rev 4.4	
MB 380-38643/18	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-38643/20	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-38643/21	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-38643/19	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-45001-B-2 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-45001-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

Prep Batch: 38714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total Recoverable	Water	200.8	
MB 380-38714/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-38714/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-38714/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-38714/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-45203-1 MS	AIEA WELLS P2 (260)	Total Recoverable	Water	200.8	
380-45203-1 MSD	AIEA WELLS P2 (260)	Total Recoverable	Water	200.8	

Analysis Batch: 39001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total Recoverable	Water	200.8	38714
MB 380-38714/1-A	Method Blank	Total Recoverable	Water	200.8	38714
LCS 380-38714/3-A	Lab Control Sample	Total Recoverable	Water	200.8	38714
LCSD 380-38714/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	38714
LLCS 380-38714/2-A	Lab Control Sample	Total Recoverable	Water	200.8	38714
380-45203-1 MS	AIEA WELLS P2 (260)	Total Recoverable	Water	200.8	38714
380-45203-1 MSD	AIEA WELLS P2 (260)	Total Recoverable	Water	200.8	38714

Prep Batch: 57460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	245.1	
MB 810-57460/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-57460/3-A	Lab Control Sample	Total/NA	Water	245.1	
LLCS 810-57460/2-A	Lab Control Sample	Total/NA	Water	245.1	
810-60961-A-1-B MS	Matrix Spike	Total/NA	Water	245.1	
810-60961-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 57515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	245.1	57460
MB 810-57460/1-A	Method Blank	Total/NA	Water	245.1	57460
LCS 810-57460/3-A	Lab Control Sample	Total/NA	Water	245.1	57460
LLCS 810-57460/2-A	Lab Control Sample	Total/NA	Water	245.1	57460
810-60961-A-1-B MS	Matrix Spike	Total/NA	Water	245.1	57460
810-60961-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	57460

General Chemistry

Analysis Batch: 38554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	SM 2540C	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-45203-1

General Chemistry (Continued)

Analysis Batch: 38554 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-38554/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-38554/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-38554/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-38554/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-38554/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-45300-I-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 38729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	SM 4500 F C	
MB 380-38729/40	Method Blank	Total/NA	Water	SM 4500 F C	
MB 380-38729/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-38729/42	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-38729/43	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-38729/41	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-38729/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-45154-AM-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-45154-AM-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 38730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	SM 2320B	
MB 380-38730/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-38730/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-38730/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-38730/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-38730/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-45203-1 MS	AIEA WELLS P2 (260)	Total/NA	Water	SM 2320B	
380-45203-1 MSD	AIEA WELLS P2 (260)	Total/NA	Water	SM 2320B	
380-45203-1 DU	AIEA WELLS P2 (260)	Total/NA	Water	SM 2320B	

Analysis Batch: 38733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	SM 2510B	
MB 380-38733/1	Method Blank	Total/NA	Water	SM 2510B	
LCSD 380-38733/15	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-38733/3	Lab Control Sample	Total/NA	Water	SM 2510B	
380-45203-1 DU	AIEA WELLS P2 (260)	Total/NA	Water	SM 2510B	

Analysis Batch: 38736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	SM 4500 H+ B	
MB 380-38736/4	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-38736/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-38736/17	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-45203-1 DU	AIEA WELLS P2 (260)	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 38801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	SM 4500 S2 D	
MB 380-38801/1	Method Blank	Total/NA	Water	SM 4500 S2 D	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-45203-1

General Chemistry (Continued)

Analysis Batch: 38801 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-38801/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-38801/10	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-38801/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-38801/9	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-45203-1 MS	AIEA WELLS P2 (260)	Total/NA	Water	SM 4500 S2 D	
380-45203-1 MSD	AIEA WELLS P2 (260)	Total/NA	Water	SM 4500 S2 D	

Subcontract

Analysis Batch: O-41056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	625 Acid/Base/PAH + TICs	O-41056_P
106291-B1	Method Blank	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41056_P
106291-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41056_P
106291-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41056_P

Analysis Batch: 23DSE005W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	8015 LL DRO/MRO/JP5/J P8	
23DSE005WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSE005WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5E005WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8E005WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D320-01M	Matrix Spike	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D320-01M	Matrix Spike	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D320-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D320-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

QC Association Summary

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

Job ID: 380-45203-1

Subcontract

Analysis Batch: 23MEE001W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	8015 Ethanol	
23MEE001WB	Method Blank	Total/NA	WATER	8015 Ethanol	
23MEE001WL	Lab Control Sample	Total/NA	WATER	8015 Ethanol	
23D320-01M	Matrix Spike	Total/NA	WATER	8015 Ethanol	
23D320-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Ethanol	

Analysis Batch: 23VGH7E01

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VGH7E01B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VGH7E01L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23D320-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23D320-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-41056_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-45203-1	AIEA WELLS P2 (260)	Total/NA	Water	EPA_625	
106291-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
106291-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
106291-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-45203-1

Client Sample ID: AIEA WELLS P2 (260)

Lab Sample ID: 380-45203-1

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	38767	N4CJ	EA POM	05/02/23 14:33
Total/NA	Analysis	524.2		1	39356	N1R	EA POM	05/08/23 11:30
Total/NA	Analysis	524.2		1	38764	Q6AD	EA POM	05/02/23 17:27
Total/NA	Prep	525.2			58439	HB	EA SB	05/10/23 07:11
Total/NA	Analysis	525.2 LL		1	58555	CG	EA SB	05/11/23 14:12
Total/NA	Prep	504.1			38656	K9GY	EA POM	05/02/23 13:18 - 05/02/23 14:46 ¹
Total/NA	Analysis	504.1		1	38952	K9GY	EA POM	05/03/23 05:33
Total/NA	Prep	505			58455	AM	EA SB	05/10/23 08:13 - 05/10/23 15:50 ¹
Total/NA	Analysis	505		1	58571	JV	EA SB	05/11/23 04:14
Total/NA	Analysis	300.0		5	38685	VB9B	EA POM	05/01/23 22:54
Total/NA	Analysis	300.0		1	38465	UNJR	EA POM	04/28/23 23:22
Total/NA	Analysis	300.0		1	38419	LM8C	EA POM	04/28/23 04:07
Total/NA	Analysis	300.0		1	38420	LM8C	EA POM	04/28/23 04:07
Total/NA	Analysis	200.7 Rev 4.4		1	38643	J9ZD	EA POM	05/01/23 12:12
Total Recoverable	Prep	200.8			38714	NQM8	EA POM	05/02/23 08:22
Total Recoverable	Analysis	200.8		1	39001	AAE8	EA POM	05/03/23 16:11
Total/NA	Prep	245.1			57460	AC	EA SB	05/02/23 12:26
Total/NA	Analysis	245.1		1	57515	AC	EA SB	05/02/23 16:20
Total/NA	Analysis	SM 2320B		1	38730	D5MQ	EA POM	05/01/23 17:11
Total/NA	Analysis	SM 2510B		1	38733	D5MQ	EA POM	05/01/23 17:11
Total/NA	Analysis	SM 2540C		1	38554	XLG4	EA POM	04/30/23 20:01
Total/NA	Analysis	SM 4500 F C		1	38729	D5MQ	EA POM	05/01/23 18:48
Total/NA	Analysis	SM 4500 H+ B		1	38736	D5MQ	EA POM	05/01/23 17:11
Total/NA	Analysis	SM 4500 S2 D		1	38801	MH2L	EA POM	05/02/23 13:40
Total/NA	Prep	EPA_625		1	O-41056_P			05/01/23 00:00
Total/NA	Analysis	625 Acid/Base/PAH + TICs		1	O-41056_YC			05/26/23 00:27
Total/NA	Analysis	8015 Ethanol		1	23MEE001W	ASitu		05/01/23 15:13
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7E01	SCerva		05/01/23 14:48
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSE005W	SDees		05/04/23 14:43

Client Sample ID: TB: AIEA WELLS PUMPS 1&2(260)

Lab Sample ID: 380-45203-2

Date Collected: 04/26/23 12:00

Matrix: Water

Date Received: 04/27/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	38767	N4CJ	EA POM	05/02/23 19:31
Total/NA	Analysis	524.2		1	39356	N1R	EA POM	05/08/23 11:30
Total/NA	Analysis	524.2		1	38764	Q6AD	EA POM	05/02/23 17:51
Total/NA	Prep	504.1			38656	K9GY	EA POM	05/02/23 13:18 - 05/02/23 14:46 ¹
Total/NA	Analysis	504.1		1	38952	K9GY	EA POM	05/03/23 06:13

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

Lab Chronicle

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

Job ID: 380-45203-1

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

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

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Accreditation/Certification Summary

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

Job ID: 380-45203-1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	02-29-24

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
200.7 Rev 4.4		Water	Calcium
200.7 Rev 4.4		Water	Magnesium
200.7 Rev 4.4		Water	Potassium
200.7 Rev 4.4		Water	Sodium
300.0		Water	Bromide
300.0		Water	Nitrite as N
524.2		Water	1,1,1,2-Tetrachloroethane
524.2		Water	1,1,2,2-Tetrachloroethane
524.2		Water	1,1-Dichloroethane
524.2		Water	1,1-Dichloropropene
524.2		Water	1,2,3-Trichlorobenzene
524.2		Water	1,2,3-Trichloropropane
524.2		Water	1,2,4-Trimethy benzene
524.2		Water	1,3,5-Trimethy benzene
524.2		Water	1,3-Dichloropropane
524.2		Water	1,3-Dichloropropene, Total
524.2		Water	2,2-Dichloropropane
524.2		Water	2-Butanone (MEK)
524.2		Water	4-Methyl-2-pentanone (MIBK)
524.2		Water	Acetone
524.2		Water	Bromobenzene
524.2		Water	Bromochloromethane
524.2		Water	Bromodichloromethane
524.2		Water	Bromoethane
524.2		Water	Bromoform
524.2		Water	Bromomethane (Methyl Bromide)
524.2		Water	Carbon disulfide
524.2		Water	Chlorodibromomethane
524.2		Water	Chloroethane
524.2		Water	Chloroform (Trichloromethane)
524.2		Water	Chloromethane (methyl chloride)
524.2		Water	cis-1,3-Dichloropropene
524.2		Water	Dibromomethane
524.2		Water	Dichlorodifluoromethane
524.2		Water	Diisopropyl ether
524.2		Water	Hexachlorobutadiene
524.2		Water	Isopropy benzene
524.2		Water	m,p-Xylenes
524.2		Water	m-Dichlorobenzene (1,3-DCB)
524.2		Water	Naphthalene
524.2		Water	n-Butylbenzene
524.2		Water	N-Propylbenzene
524.2		Water	o-Chlorotoluene
524.2		Water	o-Xylene
524.2		Water	p-Chlorotoluene

Accreditation/Certification Summary

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

Job ID: 380-45203-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
524.2		Water	p-Isopropyltoluene
524.2		Water	sec-Butylbenzene
524.2		Water	tert-Butylbenzene
524.2		Water	Tertiary Butyl Alcohol (TBA)
524.2		Water	trans-1,3-Dichloropropene
SM 4500 F C		Water	Fluoride
SM 4500 S2 D		Water	Sulfide

Laboratory: Eurofins Eaton Analytical South Bend

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

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	07-31-24
Alabama	State	40700	06-30-23
Alaska	State	IN00035	06-30-23
Arizona	State	AZ0432	07-26-23
Arkansas (DW)	State	EPA IN00035	06-30-23
California	State	2920	06-30-23
Colorado	State	IN00035	02-29-24
Connecticut	State	PH-0132	03-31-22 *
Delaware (DW)	State	IN00035	06-30-23
Florida	NELAP	E87775	06-30-23
Georgia (DW)	State	929	06-30-23
Hawaii	State	IN035	06-30-23
Idaho (DW)	State	IN00035	12-31-23
IL Dept. of Public Health (Micro)	State	17767	06-30-23
Illinois	NELAP	200001	09-30-23
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	11-01-23
Kansas	NELAP	E-10233	10-31-23
Kentucky (DW)	State	KY90056	12-31-23
Louisiana (DW)	State	LA014	12-31-23
Maine	State	IN00035	05-01-25
Maryland	State	209	05-18-23
Massachusetts	State	M-IN035	06-30-23
MI - RadChem Recognition	State	9926	06-30-23
Michigan	State	9926	06-30-23
Minnesota	NELAP	1989807	12-31-23
Mississippi	State	IN00035	06-30-22 *
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-02-24
Nebraska	State	NE-OS-05-04	06-30-23
Nevada	State	IN000352021-2	07-31-23
New Hampshire	NELAP	2124	11-05-23
New Jersey	NELAP	IN598	06-30-23
New Mexico	State	IN00035	06-30-23

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

Accreditation/Certification Summary

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

Job ID: 380-45203-1

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
New York	NELAP	11398	04-01-24
North Carolina (DW)	State	18700	07-31-23
North Dakota	State	R-035	06-30-23
Ohio	State	87775	06-30-23
Oklahoma	NELAP	D9508	08-31-23
Oregon	NELAP	4156	09-16-23
Pennsylvania	NELAP	68-00466	04-30-24
Puerto Rico	State	IN00035	04-01-24
Rhode Island	State	LAO00343	12-30-23
South Carolina	State	95005001	06-30-23
South Dakota (DW)	State	IN00035	06-30-23
Tennessee	State	TN02973	06-30-23
Texas	NELAP	T104704187-22-16	12-31-23
Texas	TCEQ Water Supply	TX207	06-30-23
USEPA Reg X SDWA	US Federal Programs	IN00035	08-20-22 *
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-23
Vermont	State	VT-8775	11-15-23
Virginia	NELAP	460275	03-14-24
Washington	State	C837	01-01-24
West Virginia (DW)	State	9927 C	12-31-23
Wisconsin	State	999766900	08-31-23
Wisconsin (Micro)	State	10121	12-31-22 *
Wyoming	State	8TMS-L	06-30-23

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



Method Summary

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

Job ID: 380-45203-1

Method	Method Description	Protocol	Laboratory
524.2	Total Trihalomethanes	EPA-DW	EA POM
524.2	Volatile Organic Compounds (GC/MS SIM)	EPA-DW	EA POM
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	EA POM
525.2 LL	Semivolatile Organic Compounds (GC/MS)	EPA	EA SB
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW2	EA POM
505	Organochlorine Pesticides/PCBs (GC)	EPA	EA SB
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
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
200.8	Preparation, Total Recoverable Metals	EPA	EA POM
245.1	Preparation, Mercury	EPA	EA SB
504.1	Microextraction	EPA-DW	EA POM
505	Extraction, Organochlorine Pesticides/PCBs	EPA	EA SB
525.2	Extraction of Semivolatile Compounds	EPA	EA SB
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"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

EA 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: 380-45203-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-45203-1	AIEA WELLS P2 (260)	Water	04/26/23 12:00	04/27/23 10:00
380-45203-2	TB: AIEA WELLS PUMPS 1&2(260)	Water	04/26/23 12:00	04/27/23 10:00

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3051 Fujita Street
 Torrance, CA 90505
 Tel: (310)-618-8889

Date: 05-25-2023
 EMAX Batch No.: 23D320

Attn: Jackie Contreras

Eurofins Eaton Analytical
 750 Royal Oaks Dr., Suite 100
 Monrovia, CA 91016-3629

Subject: Laboratory Report
 Project: 380-45203

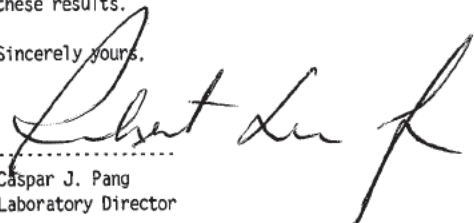
Enclosed is the Laboratory report for samples received on 04/28/23.
 The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-45203-1	D320-01	04/26/23	WATER	TPH GASOLINE TPH ETHANOL
380-45203-1MS	D320-01M	04/26/23	WATER	TPH GASOLINE TPH DIESEL TPH JP-5 ETHANOL
380-45203-1MSD	D320-01S	04/26/23	WATER	TPH GASOLINE TPH DIESEL TPH JP-5 ETHANOL

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,



Caspar J. Pang
 Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-24
 ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
 California ELAP Accredited Certificate Number 2672

23D320



Chain of Custody Record

Eurofins Eaton Analytical Pomona
 941 Corporate Center Drive
 Pomona, CA 91768-2642
 Phone: 626-366-1100

Client Information (Sub Contract Lab) Client Contact: Shipping/Receiving Company: EMAX Laboratories Inc Address: 3051 Fujita Street, Torrance, CA, 90505 City: Torrance State, Zip: CA, 90505 Phone: Email:		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@eurofins.com Phone: State of Origin: Hawaii Carrier Tracking Note: COC No: 380-50195-1 Page: Page 1 of 1 Job #: 380-45203-1	
Due Date Requested: 5/11/2023 TAT Requested (days): PO #: WO #: Project #: 38001111 SSOW#:		Analysis Requested M - Hexane N - None O - NaNO2 P - Na2CO3 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - Trizma Z - other (specify) Other:	
Sample Identification - Client ID (Lab ID) AIEA WELLS P (260) (380-45203-1)		Total Number of Containers: 14 Special Instructions/Note: See Attached Instructions	
Sample Date: 4/26/23 Sample Time: 12:00 Sample Location: Hawaiian	Sample Type (C=comp, G=grab) Preservation Code: Water	SUB (8015 Gas (Purgeable) LL (EAL)) / 8015 Gas SUB (8015 Ethanol) / 8015 Ethanol SUB (8015 LL DROM/ROJPS/JPS) / 8015 LL DROM/ROJPS/JPS SUB (8015 Gas (Purgeable) LL (EAL)) / 8015 Gas	
Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>	
Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/leak/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.			
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]			
Date/Time: 4/26/23 10:16 Company: EEA		Date/Time: 4/26/23 10:11 Company: EMAX	
Date/Time: [Blank] Company: [Blank]		Date/Time: [Blank] Company: [Blank]	
Date/Time: [Blank] Company: [Blank]		Date/Time: [Blank] Company: [Blank]	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 5.5/5.3 CF: -0.2	





Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN <u>23D320</u> Recipient <u>Cecilia Chavez</u> Date <u>04/20/23</u> Time <u>10:16</u>
---	---------------------------	--

COC INSPECTION

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any) Note:	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required		

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition <u>correction</u>	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging <u>factor: -0.2</u>	<input type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>5.5/5.3</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer: <u>A - S/N 211052766</u>	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<input type="checkbox"/> Cooler 9 _____ °C	<input type="checkbox"/> Cooler 10 _____ °C	

Comments: Temperature is out of range. PM was informed IMMEDIATELY.
 Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	7,0	D3	two different IDs on label: ① AIEA WELLS P (200) ② TB: AIEA WELLS PUMPS 1 & 2 (200)	R1 ↓
1	7,0	D7	two dates on label: 2/20/23* & 4/26/2023	
<i>[Large handwritten scribble]</i>				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. MS 5/2/23

NOTES/OBSERVATIONS: * out of HT if collected 2/28/23. Project name: Red Hill

SAMPLE MATRIX IS DRINKING WATER? YES NO

- LEGEND:**
- | | | |
|---|---|---|
| Code Description-Sample Management | Code Description-Sample Management | Code Description-Sample Management |
| D1 Analysis is not indicated in _____ | D13 Out of Holding Time | R1 Proceed as indicated in <input checked="" type="checkbox"/> COC <input type="checkbox"/> Label |
| D2 Analysis mismatch COC vs label | D14 Bubble is >6mm | R2 Refer to attached instruction |
| D3 Sample ID mismatch COC vs label | D15 No trip blank in cooler | R3 Cancel the analysis |
| D4 Sample ID is not indicated in _____ | D16 Preservation not indicated in _____ | R4 Use vial with smallest bubble first |
| D5 Container -[improper] [leaking] [broken] | D17 Preservation mismatch COC vs label | R5 Log-in with latest sampling date and time+1 min |
| D6 Date/Time is not indicated in _____ | D18 Insufficient chemical preservative | R6 Adjust pH as necessary |
| D7 Date/Time mismatch COC vs label | D19 Insufficient Sample | R7 Filter and preserved as necessary |
| D8 Sample listed in COC is not received | D20 No filtration info for dissolved analysis | R8 _____ |
| D9 Sample received is not listed in COC | D21 No sample for moisture determination | R9 _____ |
| D10 No initial/date on corrections in COC/label | D22 _____ | R10 _____ |
| D11 Container count mismatch COC vs received | D23 _____ | R11 _____ |
| D12 Container size mismatch COC vs received | D24 _____ | R12 _____ |

REVIEWS:

Sample Labeling <u>Jocelyne Collins</u>	SRF <u>Cecilia Chavez</u>	PM <u>MS</u>
Date <u>04/20/23</u>	Date <u>4/28/23</u>	Date <u>5/2/23</u>

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-45203

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 23D320



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-45203

SDG : 23D320

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

One(1) water sample was received on 04/28/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VGH7E01B - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. VGH7E01L/VGH7E01C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in D320-01M/D320-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

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SAMPLE RESULTS

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/26/23 12:00
Project	: 380-45203	Date Received:	04/28/23
Batch No.	: 23D320	Date Extracted:	05/01/23 14:48
Sample ID	: 380-45203-1	Date Analyzed:	05/01/23 14:48
Lab Samp ID:	D320-01	Dilution Factor:	1
Lab File ID:	AE01008A	Matrix:	WATER
Ext Btch ID:	23VGH7E01	% Moisture:	NA
Calib. Ref.:	AE01004A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0397	0.0400	99	60-140

Notes:

Parameter H-C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Analyzed by : SCerva

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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7E01B	VGH7E01L	VGH7E01C
LAB FILE ID	: AE01005A	AE01006A	AE01007A
DATE PREPARED	: 05/01/23 12:56	05/01/23 13:33	05/01/23 14:10
DATE ANALYZED	: 05/01/23 12:56	05/01/23 13:33	05/01/23 14:10
PREP BATCH	: 23VGH7E01	23VGH7E01	23VGH7E01
CALIBRATION REF:	AE01004A	AE01004A	AE01004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.480	96	0.500	0.469	94	2	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0466	117	0.0400	0.0446	112	70-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-45203-1	380-45203-1MS	380-45203-1MSD
LAB SAMPLE ID	: D320-01	D320-01M	D320-01S
LAB FILE ID	: AE01008A	AE01009A	AE01010A
DATE PREPARED	: 05/01/23 14:48	05/01/23 15:25	05/01/23 16:02
DATE ANALYZED	: 05/01/23 14:48	05/01/23 15:25	05/01/23 16:02
PREP BATCH	: 23VGH7E01	23VGH7E01	23VGH7E01
CALIBRATION REF:	AE01004A	AE01004A	AE01004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.498	100	0.500	0.546	109	9	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0472	118	0.0400	0.0470	118	60-140

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-45203

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23D320



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-45203

SDG : 23D320

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 04/28/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSE005WB - result was compliant to project requirement. Refer to sample result summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 23D320-01M/23D320-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-45203

SDG : 23D320

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 04/28/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSE005WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP5 was within LCS QC limits in J5E005WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP5 was within MS QC limits in 23D320-01M/23D320-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-45203

SDG : 23D320

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 04/28/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSE005WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP8 was within LCS QC limits in J8E005WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP8 was within MS QC limits in 23D321-01M/23D321-01S. Refer to Matrix QC summary form for details.

Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
 Project : 380-45203
 SDG NO. : 23D320
 Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSE005WB	1	NA	05/04/2313:29	05/03/2312:30	LE04009A	LE04005A	23DSE005W	Method Blank
LCS1W	J8E005WL	1	NA	05/04/2314:25	05/03/2312:30	LE04012A	LE04005A	23DSE005W	Lab Control Sample (LCS)
380-45203-1	D320-01	1	NA	05/04/2314:43	05/03/2312:30	LE04013A	LE04005A	23DSE005W	Field Sample

FN - Filename
 % Moist - Percent Moisture



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SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 04/26/23 12:00
Project : 380-45203	Date Received: 04/28/23
Batch No. : 23D320	Date Extracted: 05/03/23 12:30
Sample ID : 380-45203-1	Date Analyzed: 05/04/23 14:43
Lab Samp ID: 23D320-01	Dilution Factor: 1
Lab File ID: LE04013A	Matrix: WATER
Ext Btch ID: 23DSE005W	% Moisture: NA
Calib. Ref.: LE04003A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.028	0.014	
Motor Oil	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.423	0.550	77	60-130
Hexacosane	0.140	0.138	102	60-130

Notes:

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 910ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/26/23 12:00
Project	: 380-45203	Date Received:	04/28/23
Batch No.	: 23D320	Date Extracted:	05/03/23 12:30
Sample ID	: 380-45203-1	Date Analyzed:	05/04/23 14:43
Lab Samp ID:	23D320-01	Dilution Factor:	1
Lab File ID:	LE04013A	Matrix:	WATER
Ext Btch ID:	23DSE005W	% Moisture:	NA
Calib. Ref.:	LE04004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.055	0.028

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.423	0.550	77	60-130
Hexacosane	0.140	0.138	102	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 910ml Final Volume : 5ml
 Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/26/23 12:00
Project	: 380-45203	Date Received:	04/28/23
Batch No.	: 23D320	Date Extracted:	05/03/23 12:30
Sample ID	: 380-45203-1	Date Analyzed:	05/04/23 14:43
Lab Samp ID:	23D320-01	Dilution Factor:	1
Lab File ID:	LE04013A	Matrix:	WATER
Ext Btch ID:	23DSE005W	% Moisture:	NA
Calib. Ref.:	LE04005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.423	0.550	77	60-130
Hexacosane	0.140	0.138	102	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 910ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 05/03/23 12:30
Project : 380-45203	Date Received: 05/03/23
Batch No. : 23D320	Date Extracted: 05/03/23 12:30
Sample ID : MBLK1W	Date Analyzed: 05/04/23 13:29
Lab Samp ID: DSE005WB	Dilution Factor: 1
Lab File ID: LE04009A	Matrix: WATER
Ext Btch ID: 23DSE005W	% Moisture: NA
Calib. Ref.: LE04003A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.025	0.012
Motor Oil	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.404	0.500	81	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-45203-1	380-45203-1MS	380-45203-1MSD
LAB SAMPLE ID	: 23D320-01	23D320-01M	23D320-01S
LAB FILE ID	: LE04013A	LE04014A	LE04015A
DATE PREPARED	: 05/03/23 12:30	05/03/23 12:30	05/03/23 12:30
DATE ANALYZED	: 05/04/23 14:43	05/04/23 15:02	05/04/23 15:20
PREP BATCH	: 23DSE005W	23DSE005W	23DSE005W
CALIBRATION REF:	LE04003A	LE04003A	LE04003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.75	2.77	101	2.80	2.96	106	7	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.550	0.458	83	0.560	0.500	89	60-130
Hexacosane	0.138	0.141	103	0.140	0.152	109	60-130

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W
LAB SAMPLE ID : DSE005WB DSE005WL
LAB FILE ID : LE04009A LE04010A
DATE PREPARED : 05/03/23 12:30 05/03/23 12:30
DATE ANALYZED : 05/04/23 13:29 05/04/23 13:48
PREP BATCH : 23DSE005W 23DSE005W
CALIBRATION REF: LE04003A LE04003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.63	105	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.440	88	60-130
Hexacosane	0.125	0.135	108	60-130

MB: Method Blank sample LCS: Lab Control Sample

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	05/03/23 12:30
Project	: 380-45203	Date Received:	05/03/23
Batch No.	: 23D320	Date Extracted:	05/03/23 12:30
Sample ID	: MBLK1W	Date Analyzed:	05/04/23 13:29
Lab Samp ID:	DSE005WB	Dilution Factor:	1
Lab File ID:	LE04009A	Matrix:	WATER
Ext Btch ID:	23DSE005W	% Moisture:	NA
Calib. Ref.:	LE04004A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.404	0.500	81	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml Final Volume : 5ml
 Prepared by : P0reto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W
LAB SAMPLE ID : DSE005WB J5E005WL
LAB FILE ID : LE04009A LE04011A
DATE PREPARED : 05/03/23 12:30 05/03/23 12:30
DATE ANALYZED : 05/04/23 13:29 05/04/23 14:06
PREP BATCH : 23DSE005W 23DSE005W
CALIBRATION REF: LE04004A LE04004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP5	ND	2.50	2.41	96	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.447	89	60-130
Hexacosane	0.125	0.126	101	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-45203-1	380-45203-1MS	380-45203-1MSD
LAB SAMPLE ID	: 23D320-01	23D320-01M	23D320-01S
LAB FILE ID	: LE04013A	LE04016A	LE04017A
DATE PREPARED	: 05/03/23 12:30	05/03/23 12:30	05/03/23 12:30
DATE ANALYZED	: 05/04/23 14:43	05/04/23 15:39	05/04/23 15:58
PREP BATCH	: 23DSE005W	23DSE005W	23DSE005W
CALIBRATION REF:	LE04004A	LE04004A	LE04004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.65	2.54	96	2.72	2.67	98	5	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.530	0.467	88	0.545	0.466	86	60-130
Hexacosane	0.132	0.133	100	0.136	0.133	98	60-130

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	05/03/23 12:30
Project	: 380-45203	Date Received:	05/03/23
Batch No.	: 23D320	Date Extracted:	05/03/23 12:30
Sample ID	: MBLK1W	Date Analyzed:	05/04/23 13:29
Lab Samp ID:	DSE005WB	Dilution Factor:	1
Lab File ID:	LE04009A	Matrix:	WATER
Ext Btch ID:	23DSE005W	% Moisture:	NA
Calib. Ref.:	LE04005A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.050	0.025	

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.404	0.500	81	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

RL : Reporting Limit
 Parameter H-C Range
 JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
 Sample Amount : 1000ml Final Volume : 5ml
 Prepared by : P0reto Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45203
BATCH NO. : 23D320
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W
LAB SAMPLE ID : DSE005WB J8E005WL
LAB FILE ID : LE04009A LE04012A
DATE PREPARED : 05/03/23 12:30 05/03/23 12:30
DATE ANALYZED : 05/04/23 13:29 05/04/23 14:25
PREP BATCH : 23DSE005W 23DSE005W
CALIBRATION REF: LE04005A LE04005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP8	ND	2.50	2.76	110	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.503	101	60-130
Hexacosane	0.125	0.130	104	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-45216
BATCH NO. : 23D321
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-45216-1	380-45216-1MS	380-45216-1MSD
LAB SAMPLE ID	: 23D321-01	23D321-01M	23D321-01S
LAB FILE ID	: LE04018A	LE04019A	LE04020A
DATE PREPARED	: 05/03/23 12:30	05/03/23 12:30	05/03/23 12:30
DATE ANALYZED	: 05/04/23 16:16	05/04/23 16:35	05/04/23 16:53
PREP BATCH	: 23DSE005W	23DSE005W	23DSE005W
CALIBRATION REF:	LE04005A	LE04005A	LE04005A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.60	3.04	117	2.62	3.05	116	0	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.520	0.493	95	0.525	0.564	107	60-130
Hexacosane	0.130	0.135	104	0.131	0.130	99	60-130

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-45203

METHOD SW8015C
ALCOHOLS BY GC

SDG#: 23D320



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-45203

SDG : 23D320

METHOD SW8015C
ALCOHOLS BY GC

One(1) water sample was received on 04/28/23 to be analyzed for Alcohols by GC in accordance with Method SW8015C and project specific requirements.

Holding Time

The sample was analyzed within the prescribed holding time.

Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. MEE001WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. MEE001WL/MEE001WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Ethanol was within MS QC limits in D320-01M/D320-01S. Refer to Matrix QC summary form for details.

Sample Analysis

The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

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SAMPLE RESULTS

METHOD SW8015C
ALCOHOLS BY GC

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/26/23
Project	: 380-45203	Date Received:	04/28/23
Batch No.	: 23D320	Date Extracted:	NA
Sample ID:	380-45203-1	Date Analyzed:	05/01/23 15:13
Lab Samp ID:	D320-01	Dilution Factor:	1
Lab File ID:	TE01007A	Matrix	: WATER
Ext Btch ID:	MEE001W	% Moisture	: NA
Calib. Ref.:	TE01002A	Instrument ID	: GCT050

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANOL	ND	2000	500

RL : Reporting Limit

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QC SUMMARIES

METHOD SW8015C
ALCOHOLS BY GC

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	NA
Project	: 380-45203	Date Received:	NA
Batch No.	: 23D320	Date Extracted:	NA
Sample ID:	MBLK1W	Date Analyzed:	05/01/23 14:30
Lab Samp ID:	MEE001WB	Dilution Factor:	1
Lab File ID:	TE01004A	Matrix	: WATER
Ext Btch ID:	MEE001W	% Moisture	: NA
Calib. Ref.:	TE01002A	Instrument ID	: GCT050

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANOL	ND	2000	500

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-45203
BATCH NO.: 23D320
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: MEE001WB MEE001WL MEE001WC
LAB FILE ID: TE01004A TE01005A TE01006A
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA
DATE ANALYZED: 05/01/2314:30 05/01/2314:45 05/01/2314:59 DATE RECEIVED: NA
PREP. BATCH: MEE001W MEE001W MEE001W
CALIB. REF: TE01002A TE01002A TE01002A

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethanol	ND	10000	9570	96	10000	9830	98	3	60-130	30

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-45203
BATCH NO.: 23D320
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: 380-45203-1
LAB SAMP ID: D320-01 D320-01M D320-01S
LAB FILE ID: TE01007A TE01008A TE01009A
DATE EXTRACTED: NA NA NA DATE COLLECTED: 04/26/23
DATE ANALYZED: 05/01/2315:13 05/01/2315:27 05/01/2315:54 DATE RECEIVED: 04/28/23
PREP. BATCH: MEE001W MEE001W MEE001W
CALIB. REF: TE01002A TE01002A TE01002A

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethanol	ND	10000	9890	99	10000	9310	93	6	60-130	30

June 02, 2023

Rachelle Arada
 Eurofins Eaton Analytical
 750 Royal Oaks Drive
 Suite 100
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-45203-1
 Physis Project ID: 1407003-402

Dear Rachelle,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 4/28/2023. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1
Base/Neutral Extractable Compounds by EPA 625.1
Acid Extractable Compounds w/ PAHs by EPA 625.1
6-tert-Butyl-2,4-dimethylphenol by EPA 625.1
2,6-Di-tert-butylphenol by EPA 625.1
2,6-Di-tert-butyl-4-methylphenol by EPA 625.1
p-tert-Butylphenol by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,



Misty Mercier
 714 602-5320
 Extension 202
 mistymercier@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-402

RED-HILL Project # 38001111 Job # 380-45203-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
106292	AIEA WELLS P___ (260)	380-45203-1	4/26/2023	12:00	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

BIANALYTICALS

REPORT

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 106292-R1	AIEA WELLS P___ (260) 380-45203- Matrix: Samplewater						Sampled:	26-Apr-23 12:00	Received:	28-Apr-23	
(2,4,6-Tribromophenol)	EPA 625.1	% Recovery	85	1			Total	O-41056	01-May-23	26-May-23	
(d5-Phenol)	EPA 625.1	% Recovery	35	1			Total	O-41056	01-May-23	26-May-23	
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Benzoic Acid	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-41056	01-May-23	26-May-23	
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 106292-R1	AIEA WELLS P___ (260) 380-45203- Matrix: Samplewater						Sampled:	26-Apr-23 12:00	Received:	28-Apr-23	
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
D benzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-41056	01-May-23	26-May-23	

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 106292-R1	AIEA WELLS P___ (260) 380-45203- Matrix: Samplewater						Sampled: 26-Apr-23 12:00			Received: 28-Apr-23		
(d10-Acenaphthene)	EPA 625.1	% Recovery	78	1			Total		O-41056	01-May-23	26-May-23	
(d10-Phenanthrene)	EPA 625.1	% Recovery	78	1			Total		O-41056	01-May-23	26-May-23	
(d12-Chrysene)	EPA 625.1	% Recovery	95	1			Total		O-41056	01-May-23	26-May-23	
(d12-Perylene)	EPA 625.1	% Recovery	97	1			Total		O-41056	01-May-23	26-May-23	
(d8-Naphthalene)	EPA 625.1	% Recovery	75	1			Total		O-41056	01-May-23	26-May-23	
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23	

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41056	01-May-23	26-May-23



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 106291-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-41056			Prepared: 01-May-23		Analyzed: 25-May-23			
(2,4,6-Tribromophenol)	Total	91	1				% Recovery	100	91	30 - 130%	PASS		
(d5-Phenol)	Total	99	1				% Recovery	100	99	0 - 130%	PASS		
2,4,5-Trichlorophenol	Total	ND	1	0.05	0.1	µg/L							
2,4,6-Trichlorophenol	Total	ND	1	0.05	0.1	µg/L							
2,4-Dichlorophenol	Total	ND	1	0.05	0.1	µg/L							
2,4-Dinitrophenol	Total	ND	1	0.1	0.2	µg/L							
2,6-Dichlorophenol	Total	ND	1	0.05	0.1	µg/L							
2,6-Di-tert-butyl-4-methylphenol	Total	ND	1	0.05	0.1	µg/L							
2,6-Di-tert-butylphenol	Total	ND	1	0.05	0.1	µg/L							
2-Chlorophenol	Total	ND	1	0.05	0.1	µg/L							
2-Methyl-4,6-dinitrophenol	Total	ND	1	0.1	0.2	µg/L							
2-Methylphenol	Total	ND	1	0.1	0.2	µg/L							
2-Nitrophenol	Total	ND	1	0.1	0.2	µg/L							
3+4-Methylphenol	Total	ND	1	0.1	0.2	µg/L							
4-Chloro-3-methylphenol	Total	ND	1	0.1	0.2	µg/L							
4-Nitrophenol	Total	ND	1	0.1	0.2	µg/L							
6-tert-butyl-2,4-dimethylphenol	Total	ND	1	0.05	0.1	µg/L							
Benzoic Acid	Total	ND	1	0.1	0.2	µg/L							
Benzyl Alcohol	Total	ND	1	0.1	0.2	µg/L							
Pentachlorophenol	Total	ND	1	0.05	0.1	µg/L							
Phenol	Total	ND	1	0.1	0.2	µg/L							
p-tert-Butylphenol	Total	ND	1	0.05	0.1	µg/L							

Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 106291-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41056			Prepared: 01-May-23		Analyzed: 25-May-23					
(2,4,6-Tribromophenol)	Total	92	1			% Recovery	100	0	92	30 - 130%	PASS	
(d5-Phenol)	Total	104	1			% Recovery	100	0	104	0 - 130%	PASS	
2,4,5-Trichlorophenol	Total	646	1	0.05	0.1	µg/L	1000	0	65	30 - 130%	PASS	
2,4,6-Trichlorophenol	Total	660	1	0.05	0.1	µg/L	1000	0	66	56 - 118%	PASS	
2,4-Dichlorophenol	Total	649	1	0.05	0.1	µg/L	1000	0	65	51 - 117%	PASS	
2,4-Dinitrophenol	Total	710	1	0.1	0.2	µg/L	1000	0	71	0 - 152%	PASS	
2,6-Dichlorophenol	Total	0.329	1	0.05	0.1	µg/L	0.5	0	66	30 - 130%	PASS	
2,6-Di-tert-butyl-4-methylphenol	Total	1.17	1	0.05	0.1	µg/L	1	0	117	50 - 150%	PASS	
2,6-Di-tert-butylphenol	Total	1.02	1	0.05	0.1	µg/L	1	0	102	50 - 150%	PASS	
2-Chlorophenol	Total	637	1	0.05	0.1	µg/L	1000	0	64	41 - 110%	PASS	
2-Methyl-4,6-dinitrophenol	Total	750	1	0.1	0.2	µg/L	1000	0	75	0 - 141%	PASS	
2-Methylphenol	Total	672	1	0.1	0.2	µg/L	1000	0	67	40 - 117%	PASS	
2-Nitrophenol	Total	588	1	0.1	0.2	µg/L	1000	0	59	40 - 117%	PASS	
3+4-Methylphenol	Total	656	1	0.1	0.2	µg/L	1000	0	66	0 - 130%	PASS	
4-Chloro-3-methylphenol	Total	1150	1	0.1	0.2	µg/L	1000	0	115	51 - 128%	PASS	
4-Nitrophenol	Total	729	1	0.1	0.2	µg/L	1000	0	73	10 - 164%	PASS	
6-tert-butyl-2,4-dimethylphenol	Total	0.698	1	0.05	0.1	µg/L	1	0	70	50 - 150%	PASS	
Benzoic Acid	Total	0.592	1	0.1	0.2	µg/L	1	0	59	2 - 145%	PASS	
Benzyl Alcohol	Total	0.733	1	0.1	0.2	µg/L	1	0	73	43 - 148%	PASS	
Pentachlorophenol	Total	766	1	0.05	0.1	µg/L	1000	0	77	36 - 111%	PASS	
Phenol	Total	540	1	0.1	0.2	µg/L	1000	0	54	29 - 114%	PASS	
p-tert-Butylphenol	Total	0.786	1	0.05	0.1	µg/L	1	0	79	50 - 150%	PASS	

Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODEc	
									%	LIMITS	%	LIMITS		
Sample ID: 106291-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-41056			Prepared: 01-May-23			Analyzed: 25-May-23			
(2,4,6-Tribromophenol)	Total	93	1			% Recovery	100	0	93	30 - 130%	PASS	1	30	PASS
(d5-Phenol)	Total	116	1			% Recovery	100	0	116	0 - 130%	PASS	11	30	PASS
2,4,5-Trichlorophenol	Total	737	1	0.05	0.1	µg/L	1000	0	74	30 - 130%	PASS	13	30	PASS
2,4,6-Trichlorophenol	Total	698	1	0.05	0.1	µg/L	1000	0	70	56 - 118%	PASS	6	30	PASS
2,4-Dichlorophenol	Total	712	1	0.05	0.1	µg/L	1000	0	71	51 - 117%	PASS	9	30	PASS
2,4-Dinitrophenol	Total	813	1	0.1	0.2	µg/L	1000	0	81	0 - 152%	PASS	13	30	PASS
2,6-Dichlorophenol	Total	0.347	1	0.05	0.1	µg/L	0.5	0	69	30 - 130%	PASS	4	30	PASS
2,6-Di-tert-butyl-4-methylphenol	Total	1.17	1	0.05	0.1	µg/L	1	0	117	50 - 150%	PASS	0	30	PASS
2,6-Di-tert-butylphenol	Total	1.02	1	0.05	0.1	µg/L	1	0	102	50 - 150%	PASS	0	30	PASS
2-Chlorophenol	Total	709	1	0.05	0.1	µg/L	1000	0	71	41 - 110%	PASS	10	30	PASS
2-Methyl-4,6-dinitrophenol	Total	839	1	0.1	0.2	µg/L	1000	0	84	0 - 141%	PASS	11	30	PASS
2-Methylphenol	Total	756	1	0.1	0.2	µg/L	1000	0	76	40 - 117%	PASS	13	30	PASS
2-Nitrophenol	Total	707	1	0.1	0.2	µg/L	1000	0	71	40 - 117%	PASS	18	30	PASS
3+4-Methylphenol	Total	762	1	0.1	0.2	µg/L	1000	0	76	0 - 130%	PASS	14	30	PASS
4-Chloro-3-methylphenol	Total	1220	1	0.1	0.2	µg/L	1000	0	122	51 - 128%	PASS	6	30	PASS
4-Nitrophenol	Total	758	1	0.1	0.2	µg/L	1000	0	76	10 - 164%	PASS	4	30	PASS
6-tert-butyl-2,4-dimethylphenol	Total	0.723	1	0.05	0.1	µg/L	1	0	72	50 - 150%	PASS	3	30	PASS
Benzoic Acid	Total	0.762	1	0.1	0.2	µg/L	1	0	76	2 - 145%	PASS	25	30	PASS
Benzyl Alcohol	Total	0.774	1	0.1	0.2	µg/L	1	0	77	43 - 148%	PASS	5	30	PASS
Pentachlorophenol	Total	800	1	0.05	0.1	µg/L	1000	0	80	36 - 111%	PASS	4	30	PASS
Phenol	Total	623	1	0.1	0.2	µg/L	1000	0	62	29 - 114%	PASS	14	30	PASS
p-tert-Butylphenol	Total	0.817	1	0.05	0.1	µg/L	1	0	82	50 - 150%	PASS	4	30	PASS

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%
Sample ID: 106291-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41056		Prepared: 01-May-23		Analyzed: 25-May-23					
2-Chloronaphthalene	Total	ND	1	0.05	0.1	µg/L					
2-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
3-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Bromophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Chloroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Chlorophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
Aniline	Total	ND	1	0.05	0.1	µg/L					
Benzidine	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethoxy) methane	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethyl) ether	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroisopropyl) ether	Total	ND	1	0.05	0.1	µg/L					
Dibenzofuran	Total	ND	1	0.05	0.1	µg/L					
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L					
Hexachloroethane	Total	ND	1	0.05	0.1	µg/L					
Nitrobenzene	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodi-n-propylamine	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodiphenylamine	Total	ND	1	0.05	0.1	µg/L					



Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODEc
									%	LIMITS	%	LIMITS	
Sample ID: 106291-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:		
Method: EPA 625.1		Batch ID: O-41056			Prepared: 01-May-23			Analyzed: 25-May-23					
2-Chloronaphthalene	Total	0.703	1	0.05	0.1	µg/L	1	0	70	53 - 130%	PASS		
2-Nitroaniline	Total	0.723	1	0.05	0.1	µg/L	1	0	72	69 - 114%	PASS		
3-Nitroaniline	Total	0.724	1	0.05	0.1	µg/L	1	0	72	23 - 137%	PASS		
4-Bromophenylphenyl ether	Total	0.801	1	0.05	0.1	µg/L	1	0	80	61 - 132%	PASS		
4-Chloroaniline	Total	0.649	1	0.05	0.1	µg/L	1	0	65	50 - 150%	PASS		
4-Chlorophenylphenyl ether	Total	0.772	1	0.05	0.1	µg/L	1	0	77	63 - 130%	PASS		
4-Nitroaniline	Total	0.822	1	0.05	0.1	µg/L	1	0	82	10 - 159%	PASS		
Aniline	Total	0.272	1	0.1	0.1	µg/L	0.25	0	109	50 - 150%	PASS		
Benzidine	Total	0.0194	1	0.05	0.1	µg/L	1	0	2	0 - 125%	PASS		
Bis(2-Chloroethoxy) methane	Total	0.705	1	0.05	0.1	µg/L	1	0	70	66 - 122%	PASS		
Bis(2-Chloroethyl) ether	Total	0.471	1	0.05	0.1	µg/L	1	0	47	43 - 127%	PASS		
Bis(2-Chloroisopropyl) ether	Total	8.67	1	0.05	0.1	µg/L	8	0	108	49 - 128%	PASS		
Dibenzofuran	Total	0.746	1	0.05	0.1	µg/L	1	0	75	50 - 150%	PASS		
Disalicylidene-propanediamin	Total	26.5	1	0.05	0.1	µg/L	50	0	53	50 - 150%	PASS		
Hexachloroethane	Total	0.649	1	0.05	0.1	µg/L	1	0	65	27 - 130%	PASS		
Nitrobenzene	Total	0.631	1	0.05	0.1	µg/L	1	0	63	54 - 111%	PASS		
N-Nitrosodi-n-propylamine	Total	0.683	1	0.05	0.1	µg/L	1	0	68	61 - 152%	PASS		
N-Nitrosodiphenylamine	Total	0.768	1	0.05	0.1	µg/L	1	0	77	49 - 142%	PASS		

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODEc	
									%	LIMITS	%	LIMITS		
Sample ID: 106291-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:				
Method: EPA 625.1		Batch ID: O-41056			Prepared: 01-May-23		Analyzed: 25-May-23							
2-Chloronaphthalene	Total	0.748	1	0.05	0.1	µg/L	1	0	75	53 - 130%	PASS	7	30	PASS
2-Nitroaniline	Total	0.804	1	0.05	0.1	µg/L	1	0	80	69 - 114%	PASS	11	30	PASS
3-Nitroaniline	Total	0.78	1	0.05	0.1	µg/L	1	0	78	23 - 137%	PASS	8	30	PASS
4-Bromophenylphenyl ether	Total	0.814	1	0.05	0.1	µg/L	1	0	81	61 - 132%	PASS	1	30	PASS
4-Chloroaniline	Total	0.613	1	0.05	0.1	µg/L	1	0	61	50 - 150%	PASS	6	30	PASS
4-Chlorophenylphenyl ether	Total	0.785	1	0.05	0.1	µg/L	1	0	79	63 - 130%	PASS	1	30	PASS
4-Nitroaniline	Total	0.899	1	0.05	0.1	µg/L	1	0	90	10 - 159%	PASS	9	30	PASS
Aniline	Total	0.239	1	0.1	0.1	µg/L	0.25	0	96	50 - 150%	PASS	13	30	PASS
Benzidine	Total	0.0211	1	0.05	0.1	µg/L	1	0	2	0 - 125%	PASS	0	30	PASS
Bis(2-Chloroethoxy) methane	Total	0.759	1	0.05	0.1	µg/L	1	0	76	66 - 122%	PASS	8	30	PASS
Bis(2-Chloroethyl) ether	Total	0.524	1	0.05	0.1	µg/L	1	0	52	43 - 127%	PASS	10	30	PASS
Bis(2-Chloroisopropyl) ether	Total	9.76	1	0.05	0.1	µg/L	8	0	122	49 - 128%	PASS	12	30	PASS
Dibenzofuran	Total	0.773	1	0.05	0.1	µg/L	1	0	77	50 - 150%	PASS	3	30	PASS
Disalicylidenepropanediamin	Total	26.4	1	0.05	0.1	µg/L	50	0	53	50 - 150%	PASS	0	30	PASS
Hexachloroethane	Total	0.707	1	0.05	0.1	µg/L	1	0	71	27 - 130%	PASS	9	30	PASS
Nitrobenzene	Total	0.708	1	0.05	0.1	µg/L	1	0	71	54 - 111%	PASS	12	30	PASS
N-Nitrosodi-n-propylamine	Total	0.753	1	0.05	0.1	µg/L	1	0	75	61 - 152%	PASS	10	30	PASS
N-Nitrosodiphenylamine	Total	0.823	1	0.05	0.1	µg/L	1	0	82	49 - 142%	PASS	6	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 106291-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41056		Prepared: 01-May-23		Analyzed: 25-May-23					
(d10-Acenaphthene)	Total	87	1			% Recovery	100	87	27 - 133%	PASS	
(d10-Phenanthrene)	Total	84	1			% Recovery	100	84	43 - 129%	PASS	
(d12-Chrysene)	Total	98	1			% Recovery	100	98	52 - 144%	PASS	
(d12-Perylene)	Total	103	1			% Recovery	100	103	36 - 161%	PASS	
(d8-Naphthalene)	Total	86	1			% Recovery	100	86	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L					

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 106291-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41056			Prepared: 01-May-23		Analyzed: 25-May-23					
(d10-Acenaphthene)	Total	81	1			% Recovery	100	0	81	27 - 133%	PASS	
(d10-Phenanthrene)	Total	99	1			% Recovery	100	0	99	43 - 129%	PASS	
(d12-Chrysene)	Total	93	1			% Recovery	100	0	93	52 - 144%	PASS	
(d12-Perylene)	Total	86	1			% Recovery	100	0	86	36 - 161%	PASS	
(d8-Naphthalene)	Total	79	1			% Recovery	100	0	79	25 - 125%	PASS	
1-Methylnaphthalene	Total	400	1	0.001	0.005	µg/L	500	0	80	31 - 128%	PASS	
1-Methylphenanthrene	Total	416	1	0.001	0.005	µg/L	500	0	83	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	400	1	0.001	0.005	µg/L	500	0	80	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	394	1	0.001	0.005	µg/L	500	0	79	48 - 120%	PASS	
2-Methylnaphthalene	Total	1230	1	0.001	0.005	µg/L	1500	0	82	47 - 130%	PASS	
Acenaphthene	Total	1250	1	0.001	0.005	µg/L	1500	0	83	53 - 131%	PASS	
Acenaphthylene	Total	1260	1	0.001	0.005	µg/L	1500	0	84	43 - 140%	PASS	
Anthracene	Total	1290	1	0.001	0.005	µg/L	1500	0	86	58 - 135%	PASS	
Benz[a]anthracene	Total	1460	1	0.001	0.005	µg/L	1500	0	97	55 - 145%	PASS	
Benzo[a]pyrene	Total	1260	1	0.001	0.005	µg/L	1500	0	84	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	1320	1	0.001	0.005	µg/L	1500	0	88	46 - 165%	PASS	
Benzo[e]pyrene	Total	394	1	0.001	0.005	µg/L	500	0	79	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	1380	1	0.001	0.005	µg/L	1500	0	92	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	1450	1	0.001	0.005	µg/L	1500	0	97	56 - 145%	PASS	
Biphenyl	Total	405	1	0.001	0.005	µg/L	500	0	81	56 - 119%	PASS	
Chrysene	Total	1350	1	0.001	0.005	µg/L	1500	0	90	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	1360	1	0.001	0.005	µg/L	1500	0	91	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.4	1	0.001	0.005	µg/L	0.5	0	80	50 - 150%	PASS	
Dibenzothiophene	Total	426	1	0.001	0.005	µg/L	500	0	85	46 - 126%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	1380	1	0.001	0.005	µg/L	1500	0	92	60 - 146%	PASS		
Fluorene	Total	1300	1	0.001	0.005	µg/L	1500	0	87	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	1550	1	0.001	0.005	µg/L	1500	0	103	50 - 151%	PASS		
Naphthalene	Total	1200	1	0.001	0.005	µg/L	1500	0	80	41 - 126%	PASS		
Perylene	Total	429	1	0.001	0.005	µg/L	500	0	86	48 - 141%	PASS		
Phenanthrene	Total	1370	1	0.001	0.005	µg/L	1500	0	91	67 - 127%	PASS		
Pyrene	Total	1370	1	0.001	0.005	µg/L	1500	0	91	54 - 156%	PASS		



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODEc	
									%	LIMITS	%	LIMITS		
Sample ID: 106291-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
Method: EPA 625.1		Batch ID: O-41056			Prepared: 01-May-23			Analyzed: 25-May-23						
(d10-Acenaphthene)	Total	85	1			% Recovery	100	0	85	27 - 133%	PASS	5	30	PASS
(d10-Phenanthrene)	Total	99	1			% Recovery	100	0	99	43 - 129%	PASS	0	30	PASS
(d12-Chrysene)	Total	94	1			% Recovery	100	0	94	52 - 144%	PASS	1	30	PASS
(d12-Perylene)	Total	87	1			% Recovery	100	0	87	36 - 161%	PASS	1	30	PASS
(d8-Naphthalene)	Total	84	1			% Recovery	100	0	84	25 - 125%	PASS	6	30	PASS
1-Methylnaphthalene	Total	421	1	0.001	0.005	µg/L	500	0	84	31 - 128%	PASS	5	30	PASS
1-Methylphenanthrene	Total	412	1	0.001	0.005	µg/L	500	0	82	66 - 127%	PASS	1	30	PASS
2,3,5-Trimethylnaphthalene	Total	410	1	0.001	0.005	µg/L	500	0	82	55 - 122%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	415	1	0.001	0.005	µg/L	500	0	83	48 - 120%	PASS	5	30	PASS
2-Methylnaphthalene	Total	1290	1	0.001	0.005	µg/L	1500	0	86	47 - 130%	PASS	5	30	PASS
Acenaphthene	Total	1320	1	0.001	0.005	µg/L	1500	0	88	53 - 131%	PASS	6	30	PASS
Acenaphthylene	Total	1330	1	0.001	0.005	µg/L	1500	0	89	43 - 140%	PASS	6	30	PASS
Anthracene	Total	1320	1	0.001	0.005	µg/L	1500	0	88	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	1480	1	0.001	0.005	µg/L	1500	0	99	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	1270	1	0.001	0.005	µg/L	1500	0	85	51 - 143%	PASS	1	30	PASS
Benzo[b]fluoranthene	Total	1330	1	0.001	0.005	µg/L	1500	0	89	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	389	1	0.001	0.005	µg/L	500	0	78	42 - 152%	PASS	1	30	PASS
Benzo[g,h,i]perylene	Total	1380	1	0.001	0.005	µg/L	1500	0	92	63 - 133%	PASS	0	30	PASS
Benzo[k]fluoranthene	Total	1460	1	0.001	0.005	µg/L	1500	0	97	56 - 145%	PASS	0	30	PASS
Biphenyl	Total	434	1	0.001	0.005	µg/L	500	0	87	56 - 119%	PASS	7	30	PASS
Chrysene	Total	1380	1	0.001	0.005	µg/L	1500	0	92	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	1380	1	0.001	0.005	µg/L	1500	0	92	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	50 - 150%	PASS	0	30	PASS
Dibenzothiophene	Total	439	1	0.001	0.005	µg/L	500	0	88	46 - 126%	PASS	3	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	1360	1	0.001	0.005	µg/L	1500	0	91	60 - 146%	PASS	1	30	PASS
Fluorene	Total	1340	1	0.001	0.005	µg/L	1500	0	89	58 - 131%	PASS	2	30	PASS
Indeno[1,2,3-cd]pyrene	Total	1530	1	0.001	0.005	µg/L	1500	0	102	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	1300	1	0.001	0.005	µg/L	1500	0	87	41 - 126%	PASS	8	30	PASS
Perylene	Total	429	1	0.001	0.005	µg/L	500	0	86	48 - 141%	PASS	0	30	PASS
Phenanthrene	Total	1390	1	0.001	0.005	µg/L	1500	0	93	67 - 127%	PASS	2	30	PASS
Pyrene	Total	1350	1	0.001	0.005	µg/L	1500	0	90	54 - 156%	PASS	1	30	PASS

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PHYSIS

TENTATIVELY

IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 106292

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.1856	4.1277	1111	Anthracene-D10	1517-22-2	88
10.8786	1.2586	339	Oxalic acid, cyclohexyl pentyl ester	1000309-30-6	90
28.0966	0.5819	157	Diethyl Phthalate	84-66-2	96

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1_41056

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
36.1989	4.1431	1111	Anthracene-D10-	1719-06-8	87
10.8784	1.7651	473	Oxalic acid, cyclohexyl propyl ester	1000309-30-3	91
28.0933	0.8041	216	Diethyl Phthalate	84-66-2	96

Concentration estimated using the response for Anthracene-d10

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PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Project Iteration ID: 1407003-402
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-45203-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

- Initials Received By: [Signature]
- Date Received: 4/28/23
- Time Received: 1115
- Client Name: Eurofins
- Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - Start Time: _____
 - End Time: _____
 - Total Mileage: _____
 - Number of Pickups: _____
- Container Information: (Please put the # of containers or circle none)
 - 1 Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
- What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
- Randomly Selected Samples Temperature (°C): 3.2
 Used I/R Thermometer # 1-2

Inspection Info

- Initials Inspected By: [Signature]

Sample Integrity Upon Receipt:

- COC(s) included and completely filled out..... Yes / No
- All sample containers arrived intact..... Yes / No
- All samples listed on COC(s) are present..... Yes / No
- Information on containers consistent with information on COC(s)..... Yes / No
- Correct containers and volume for all analyses indicated..... Yes / No
- All samples received within method holding time..... Yes / No
- Correct preservation used for all analyses indicated..... Yes / No
- Name of sampler included on COC(s)..... Yes / No

Notes:

Eurofins Drinking Water Testing Pomona

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

Chain of Custody Record

eurofins
 Environment Testing

Client Information		Sampler: RYAN GAPEER	Lab PM: Arada, Rachele	Carrier Tracking No(s):	COC No: 380-21928-1845.1																										
Client Contact: Dr. Ron Fenstemacher		Phone: 808 748 5840	E-Mail: Rachele.Arada@et.eurofinsus.com	State of Origin: HI	Page: Page 1 of 4																										
Company: City & County of Honolulu		PWSID:	Analysis Requested																												
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform MS/MSD (Yes or No)</td> <td>504.1_PREC, 505_LL_PREC</td> <td>2320B, 2510B, SM4500_H+</td> <td>200.7, 200.8</td> <td>2640C_Calcd - Total Dissolved Solids (TDS)</td> <td>SM4500_S2_D - Sulfide, Total</td> <td>524.2_Pres_PREC, 524.2_SIM_PREC</td> <td>525.2_PREC - 525plus Plus TICs</td> <td>300_OF_28D_B, 300_OF_28D_PREC, 300_OF_48H_PREC, 4500_F_C</td> <td>245.1 - Local Method</td> <td>SUBCONTRACT - 8015 Jet Fuel 8 (JP8)</td> <td>SUBCONTRACT - 8015 Jet Fuel 5 (JP5)</td> <td>SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> <td>Total Number of Containers</td> </tr> </table>			Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	504.1_PREC, 505_LL_PREC	2320B, 2510B, SM4500_H+	200.7, 200.8	2640C_Calcd - Total Dissolved Solids (TDS)	SM4500_S2_D - Sulfide, Total	524.2_Pres_PREC, 524.2_SIM_PREC	525.2_PREC - 525plus Plus TICs	300_OF_28D_B, 300_OF_28D_PREC, 300_OF_48H_PREC, 4500_F_C	245.1 - Local Method	SUBCONTRACT - 8015 Jet Fuel 8 (JP8)	SUBCONTRACT - 8015 Jet Fuel 5 (JP5)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of Containers										
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	504.1_PREC, 505_LL_PREC				2320B, 2510B, SM4500_H+	200.7, 200.8	2640C_Calcd - Total Dissolved Solids (TDS)	SM4500_S2_D - Sulfide, Total	524.2_Pres_PREC, 524.2_SIM_PREC	525.2_PREC - 525plus Plus TICs	300_OF_28D_B, 300_OF_28D_PREC, 300_OF_48H_PREC, 4500_F_C	245.1 - Local Method	SUBCONTRACT - 8015 Jet Fuel 8 (JP8)	SUBCONTRACT - 8015 Jet Fuel 5 (JP5)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of Containers													
City: Honolulu		TAT Requested (days):																													
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No																													
Phone: 808-748-5091(Tel)		PO #: C20525101 exp 05312023																													
Email: RFENSTEMACHER@hbws.org		WO #:																													
Project Name: RED-HILL		Project #: 38001111	Preservation Codes:																												
Site: Hawaii		SSOW#:	<table border="0"> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Y - Trizma</td> </tr> <tr> <td></td> <td>Z - other (specify)</td> </tr> </table>			A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Y - Trizma		Z - other (specify)
A - HCL	M - Hexane																														
B - NaOH	N - None																														
C - Zn Acetate	O - AsNaO2																														
D - Nitric Acid	P - Na2O4S																														
E - NaHSO4	Q - Na2SO3																														
F - MeOH	R - Na2S2O3																														
G - Amchlor	S - H2SO4																														
H - Ascorbic Acid	T - TSP Dodecahydrate																														
I - Ice	U - Acetone																														
J - DI Water	V - MCAA																														
K - EDTA	W - pH 4-5																														
L - EDA	Y - Trizma																														
	Z - other (specify)																														
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	504.1_PREC, 505_LL_PREC	2320B, 2510B, SM4500_H+	200.7, 200.8	2640C_Calcd - Total Dissolved Solids (TDS)	SM4500_S2_D - Sulfide, Total	524.2_Pres_PREC, 524.2_SIM_PREC	525.2_PREC - 525plus Plus TICs	300_OF_28D_B, 300_OF_28D_PREC, 300_OF_48H_PREC, 4500_F_C	245.1 - Local Method	SUBCONTRACT - 8015 Jet Fuel 8 (JP8)	SUBCONTRACT - 8015 Jet Fuel 5 (JP5)	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Total Number of Containers	Special Instructions/Note:									
AIEA GULCH WELLS PUMP 1					Water																		(752A) 2.9/2.8								
AIEA GULCH WELLS PUMP 2					Water																		Feed Ex: 771970202435								
AIEA WELLS P___ (260)		4/26/23	1200	G	Water																		(752A) 5.7/5.6								
HALAWA WELLS UNITS 1 & 2					Water																		Feed Ex: 771970202468								
MOANALUA WELLS					Water																		(752A) 4.6/4.5								
HALAWA SHAFT VIEW POOL					Water																		Feed Ex: 771973565573								
KAAMILO WELLS					Water																		(752A) 4.9/4.8								
TB: AIEA GULCH WELLS PUMP 1					Water																		Feed Ex: 771973564533								
TB: AIEA GULCH WELLS PUMP 2					Water																		(752A) 2.8/2.7								
TB: AIEA WELLS PUMPS1&2(260)		4/26/23	1200	G	Water																		Feed Ex: 771973565150								
TB: HALAWA WELLS UNITS 1 & 2					Water																										
Possible Hazard Identification												Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																			
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological												<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																			
Deliverable Requested: I, II, III, IV, Other (specify)												Special Instructions/QC Requirements: FEDEX #3 Feed Ex: 771970202354																			
Empty Kit Relinquished by:						Date:						Time:						Method of Shipment:													
Relinquished by: [Redacted]						Date/Time: 4/26/23 1300						Company: HBWS						Received by: Melly Mark Urnatch													
Relinquished by:						Date/Time:						Company:						Received by:													
Relinquished by:						Date/Time:						Company:						Received by:													
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No						Custody Seal No.:						Cooler Temperature(s) °C and Other Remarks: (751A) 3.6/3.4 gel - frozen																			

Eurofins Drinking Water Testing Pomona

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

Chain of Custody Record



Environmental Testing

Client Information Client Contact: Ryan Greer Dr. Ron Fenstemacher City & County of Honolulu		Lab PM: Rachelle Arada, Rachelle E-Mail: Rachelle.Arada@eurofins.com		Carrier Tracking No: HI State of Origin: HI Job #:		COC No: 380-21928-1845.1 Page: 1 of 4							
Address: 630 South Beretania Street Chemistry Lab Honolulu State, Zip: HI, 96843 Phone: 808-748-5091(Tel) Email: Rfenstemacher@hbws.org Project Name: RED-HILL Site: Hawaii		Due Date Requested: TAT Requested (days): Compliance Project: Δ Yes Δ No PO #: C20625101 exp 05312023 WO #: 38001111 Project #: 38001111 SSOW#:		Analysis Requested 504.1, PREC, 505, LL, PREC 23208, 25108, SM4500, H+ 504.7, 200.8 2540C, Calcd - Total Dissolved Solids (TDS) SM4500, S2, D - Solids, Total 524.2, Prec, PREC, 524.2, SIM, PREC 525.2, PREC - 525plus Plus TICs 4500, F.C 245.1 - Local Method SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - Acetic Acid P - Na2SO4 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MeAA W - pH 4-5 Y - Trizma Z - other (specify)		Total Number of Equivalents Special Instructions/Note: (752A) 2.7/2.8 Fed Ex: 771970202435 (752A) 5.7/5.6 Fed Ex: 771970202468 (752A) 4.6/4.5 Fed Ex: 771973565573 (752A) 4.9/4.8 Fed Ex: 771973564533 (752A) 2.8/2.7 Fed Ex: 771973565150					
Sample Identification AIEA GULCH WELLS PUMP 1 AIEA GULCH WELLS PUMP 2 AIEA WELLS P2 (280) HALAWA WELLS UNITS 1 & 2 MOANALUA WELLS HALAWA SHAFT VIEW POOL KAAMILO WELLS TB: AIEA GULCH WELLS PUMP 1 TB: AIEA GULCH WELLS PUMP 2 TB: AIEA WELLS PUMPS1&2(280) TB: HALAWA WELLS UNITS 1 & 2		Matrix (Residue, Metals, Organics, Other): Water Water Water Water Water Water Water Water Water Water		Sample Type (C-comp, G-grab) G G G G G G G G G G		Sample Time 4/26/23 1200 4/26/23 1200 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700 4/26/23 1700		Sample Date 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23 4/26/23		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 504.1, PREC, 505, LL, PREC 23208, 25108, SM4500, H+ 504.7, 200.8 2540C, Calcd - Total Dissolved Solids (TDS) SM4500, S2, D - Solids, Total 524.2, Prec, PREC, 524.2, SIM, PREC 525.2, PREC - 525plus Plus TICs 4500, F.C 245.1 - Local Method SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)		Return To Client Disposal By Lab Archive For Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Reinquished by: Reinquished by: Ryan Greer Date: 4/26/23 1300 Company: HBWS		Method of Shipment: Date/Time: 4/27/23 1000 Company: ETA							
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.: (751A) 36/34 g61-f020		Cooler Temperature(s) °C and Other Remarks:		Ver: 06/08/2021							



Eurofins Eaton Analytical Pomona

941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-388-1100

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab P/N:	Carrier Tracking No(s):	COC No:
Client Contact:	Arada, Rachelle	Arada, Rachelle		380-50190-1
Shipping/Receiving:	Phone:	E-Mail:	State of Origin:	Page:
Company:		Rachelle.Arada@eurofins.com	Hawaii	Page 1 of 1
Eurofins Eaton Analytical	Due Date Requested:	Accreditations Required (See note):	State - Hawaii	Job #:
Address:	5/17/2023			380-45203-1
City:	TAT Requested (days):	Analysis Requested		
South Bend				
State, Zip:				
IN, 46617				
Phone:	PO #:			
574-233-4777(Tel) 574-233-8207(Fax)				
Email:	WO #:			
Project Name:	Project #:			
RED-HILL	38001111			
Site:	SSOWN#:			
Honolulu BWS Sites				

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
AIEA WELLS P (260) (380-45203-1)	4/26/23	12:00		Water		505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane	4	Initial Temp: 1.0 Corrected Temp: 1.8 IP GUID # 285187
						245.1/245.1_Prep Mercury by 245.1		

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

Possible Hazard Identification

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

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: Co JESD Y Date/Time: 4/28/23 7:34 Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____

Client Provided Sample Container

Received by: Bruce Perkins-Wright Date/Time: 04/29/23 09:30 Company: ETA

Cooler Temperature(s): PH Acceptable

Method of Shipment: _____

Special Instructions/QC Requirements: _____

Return To Client Disposal By Lab Archive For _____ Months

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

Chain of Custody Record



eurofins
 Environment Testing

Client Information (Sub Contract Lab)
 Client Contact: **Arada, Rachelle** Lab PM: **Arada, Rachelle** Carrier/Tracking No(6):
 Shipping/Receiving: **Rachelle.Arada@eurofins.com** E-Mail: **Rachelle.Arada@eurofins.com** State of Origin: **Hawaii** Page: **380-50400.1**

Company: **Eurofins Eaton Analytical** Address: **110 S Hill Street, South Bend, IN, 46617** City: **South Bend** State, Zip: **IN, 46617** Phone: **574-233-4777(Tel) 574-233-8207(Fax)** Project Name: **RED-HILL** Project #: **38001111** Site: **Honolulu BWS Sites**

Due Date Requested: **5/17/2023** TAT Requested (days): **1** Analysis Requested: **505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane
 245.1/245.1_Prep Mercury by 245.1
 525.2_LL_PREC/525.2_Prep (MOD) CA Pest

Job #: **380-45203-1** Preservation Codes: **A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Acetic Acid, I - Ice, J - DI Water, K - EDTA, L - EDTA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4.5, Y - Trizma, Z - other (specify)**

Sample Identification - Client ID (Lab ID): **AIEA WELLS P2 (260) (380-46203-1)** Sample Date: **4/26/23** Sample Time: **12:00** Matrix: **Water**

Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No)

Initial Temp: **-0.4**
 Corrected Temp: **0.4**
 IR Gun # **38001111**

Rec'd 525 only
 ppm 05/02/23

Special Instructions/Note:

Primary Deliverable Rank: **2** Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Months

Special Instructions/QC Requirements:

Relinquished by: **Colley** Date/Time: **5/17/23** 8:15/ Company: **EEH**

Relinquished by: **Colley** Date/Time: **5/17/23** 8:15/ Company: **EEH**

Relinquished by: **Colley** Date/Time: **5/17/23** 8:15/ Company: **EEH**

Relinquished by: **Colley** Date/Time: **5/17/23** 8:15/ Company: **EEH**

Custody Seals Intact: **Δ Yes Δ No** Custody Seal No.: **Client Provided Sample Container** Cooler Temperature(s) °C and Other Remarks:

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 P.M.	Carrier Tracking No(s):	COC No:
Client Contact:	Phone:	Arada, Rachelle		380-50400-1
Shipping/Receiving		E-Mail: Rachelle.Arada@at.eurofins.com	State of Origin:	Page: 380-50400-1
Company: Eurofins Eaton Analytical		Accreditations Required (See note): State - Hawaii	Hawaii	Page 1 of 1
Address: 110 S Hill Street,	Due Date Requested:			Job #: 380-45203-1
City: South Bend	TAT Requested (days):			
State, Zip: IN, 46617				
Phone: 574-233-4777(Tel) 574-233-8207(Fax)				
Email: RED-HILL	Project #:			
	SSOW#:			
Site: Honolulu BWS Sites				

Analysis Requested

Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane	245.1/245.1_Prep Mercury by 245.1	525.2_LL_PREC/525.2_Prep (MOD) CA Pest
X	X	X	X	X

Total Number of containers 2

Special Instructions/Note:
Road SAs only
ppm 05102123
initial Temp: -0.4
corrected Temp: 0.4
IR Gun # 88wet

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (G=comp, G=grab)	Matrix (Water, Seawater, Soil, etc.)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	505_PREC/505_Prep Phase II & V PCB/Toxaphene/Chlordane	245.1/245.1_Prep Mercury by 245.1	525.2_LL_PREC/525.2_Prep (MOD) CA Pest
AIEA WELLS P2 (260) (380-45203-1)	4/26/23	12:00	Hawaiian	Water		X	X	X	X	X

Possible Hazard Identification

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

Special Instructions/QC Requirements: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: _____ Date/Time: 5.1.23 8:10

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-45203-1

Login Number: 45203
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.	False	One of the received 524 vials from the first site was recd broken.
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-45203-1

Login Number: 45203
List Number: 2
Creator: Pehling-Wright, Penny

List Source: Eurofins Eaton Analytical South Bend
List Creation: 05/01/23 09:26 AM

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

