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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-54548-1

Eurofins Eaton Analytical Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



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



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Definitions/Glossary

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

Job ID: 380-54548-1

Qualifiers

GC/MS VOA

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

GC/MS VOA TICs

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

GC/MS Semi VOA

Qualifier	Qualifier Description
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
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
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

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)
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)

Definitions/Glossary

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

Job ID: 380-54548-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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: 380-54548-1

Job ID: 380-54548-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-54548-1

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

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

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

Receipt

The samples were received on 7/13/2023 11:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 4.6°C and 5.8°C

Receipt Exceptions

There is ice formation in one of the received 504.1/505 Voa Vial 40mL Amber containers.

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. The subcontract report is appended in its entirety.

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. The subcontract report is appended in its entirety.

GC/MS VOA

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

GC/MS Semi VOA

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

GC Semi VOA

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

HPLC/IC

Method 300_OF_28D_PREC: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-47358 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 300_OF_48H_PREC: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-47357 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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 380-48857 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.

Case Narrative

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

Job ID: 380-54548-1

Job ID: 380-54548-1 (Continued)

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

General Chemistry

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

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Detection Summary

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dieldrin	0.024		0.010	ug/L	1		505	Total/NA
Bromide	210		5.0	ug/L	1		300.0	Total/NA
Chloride	100		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	0.54		0.25	mg/L	5		300.0	Total/NA
Sulfate	15		1.3	mg/L	5		300.0	Total/NA
Calcium	18		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	17		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.2		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	41		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	2.7		1.0	ug/L	1		200.8	Total Recoverable
Copper	7.0		2.0	ug/L	1		200.8	Total Recoverable
A kalinity	61		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	61		2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	480		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	280		20	mg/L	1		SM 2540C	Total/NA
pH	8.0	HF		SU	1		SM 4500 H+ B	Total/NA
Benzoic Acid	0.225		0.2	0.1 ug/L	1		625 Acid/Base/PAH + TICs	Total/NA

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-54548-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			07/14/23 13:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		70 - 130				07/14/23 13:21	1
4-Bromofluorobenzene (Surr)	98		70 - 130				07/14/23 13:21	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 130				07/14/23 13:21	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 21:45	1
1,1-Dichloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,1-Dichloropropene	<0.50		0.50	ug/L			07/24/23 21:45	1
1,2,3-Trichlorobenzene	<0.50	^3+	0.50	ug/L			07/24/23 21:45	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,2,4-Trichlorobenzene	<0.50	^3+	0.50	ug/L			07/24/23 21:45	1
1,2,4-Trimethy benzene	<0.50		0.50	ug/L			07/24/23 21:45	1
1,2-Dichloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,2-Dichloropropane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,3,5-Trimethy benzene	<0.50		0.50	ug/L			07/24/23 21:45	1
1,3-Dichloropropane	<0.50		0.50	ug/L			07/24/23 21:45	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			07/24/23 21:45	1
2,2-Dichloropropane	<0.50		0.50	ug/L			07/24/23 21:45	1
2-Butanone (MEK)	<5.0		5.0	ug/L			07/24/23 21:45	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			07/24/23 21:45	1
Acetone	<500	^3+	500	ug/L			07/24/23 21:45	1
Benzene	<0.50		0.50	ug/L			07/24/23 21:45	1
Bromobenzene	<0.50		0.50	ug/L			07/24/23 21:45	1
Bromochloromethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Bromodichloromethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Bromoethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Bromoform	<0.50		0.50	ug/L			07/24/23 21:45	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			07/24/23 21:45	1
Carbon disulfide	<0.50		0.50	ug/L			07/24/23 21:45	1
Carbon tetrachloride	<0.50		0.50	ug/L			07/24/23 21:45	1
Chlorobenzene	<0.50		0.50	ug/L			07/24/23 21:45	1
Chlorodibromomethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Chloroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			07/24/23 21:45	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			07/24/23 21:45	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 21:45	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			07/24/23 21:45	1
Dibromomethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Dichloromethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Diisopropyl ether	<3.0		3.0	ug/L			07/24/23 21:45	1
Ethylbenzene	<0.50		0.50	ug/L			07/24/23 21:45	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	<0.50		0.50	ug/L			07/24/23 21:45	1
Isopropyl benzene	<0.50		0.50	ug/L			07/24/23 21:45	1
m,p-Xylenes	<0.50		0.50	ug/L			07/24/23 21:45	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			07/24/23 21:45	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			07/24/23 21:45	1
Naphthalene	<0.50	^3+	0.50	ug/L			07/24/23 21:45	1
n-Butylbenzene	<0.50		0.50	ug/L			07/24/23 21:45	1
N-Propylbenzene	<0.50		0.50	ug/L			07/24/23 21:45	1
o-Chlorotoluene	<0.50		0.50	ug/L			07/24/23 21:45	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			07/24/23 21:45	1
o-Xylene	<0.50		0.50	ug/L			07/24/23 21:45	1
p-Chlorotoluene	<0.50		0.50	ug/L			07/24/23 21:45	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			07/24/23 21:45	1
p-Isopropyltoluene	<0.50		0.50	ug/L			07/24/23 21:45	1
sec-Butylbenzene	<0.50		0.50	ug/L			07/24/23 21:45	1
Styrene	<0.50		0.50	ug/L			07/24/23 21:45	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			07/24/23 21:45	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			07/24/23 21:45	1
tert-Butylbenzene	<0.50		0.50	ug/L			07/24/23 21:45	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			07/24/23 21:45	1
Toluene	<0.50		0.50	ug/L			07/24/23 21:45	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 21:45	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			07/24/23 21:45	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			07/24/23 21:45	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			07/24/23 21:45	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			07/24/23 21:45	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			07/24/23 21:45	1
Xylenes, Total	<0.50		0.50	ug/L			07/24/23 21:45	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A		07/24/23 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		07/24/23 21:45	1
4-Bromofluorobenzene (Surr)	98		70 - 130		07/24/23 21:45	1
Toluene-d8 (Surr)	103		70 - 130		07/24/23 21:45	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
2,4'-DDE	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
2,4'-DDT	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
4,4'-DDD	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
4,4'-DDE	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
4,4'-DDT	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Acenaphthene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Acenaphthylene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Acetochlor	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
alpha-BHC	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
alpha-Chlordane	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Anthracene	<0.020		0.020	ug/L		07/16/23 14:45	07/17/23 22:24	1
Atrazine	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Benz(a)anthracene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Benzo[a]pyrene	<0.020		0.020	ug/L		07/16/23 14:45	07/17/23 22:24	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		07/16/23 14:45	07/17/23 22:24	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		07/16/23 14:45	07/17/23 22:24	1
beta-BHC	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		07/16/23 14:45	07/17/23 22:24	1
Bromacil	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Butachlor	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Butylbenzylphthalate	<0.49		0.49	ug/L		07/16/23 14:45	07/17/23 22:24	1
Chlorobenzilate	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Chloroneb	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Chlorpyrifos	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Chrysene	<0.020		0.020	ug/L		07/16/23 14:45	07/17/23 22:24	1
delta-BHC	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		07/16/23 14:45	07/17/23 22:24	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Dieldrin	<0.20		0.20	ug/L		07/16/23 14:45	07/17/23 22:24	1
Diethylphthalate	<0.49		0.49	ug/L		07/16/23 14:45	07/17/23 22:24	1
Dimethylphthalate	<0.49		0.49	ug/L		07/16/23 14:45	07/17/23 22:24	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		07/16/23 14:45	07/17/23 22:24	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Endosulfan sulfate	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Endrin	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Endrin aldehyde	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
EPTC	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Fluoranthene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Fluorene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		07/16/23 14:45	07/17/23 22:24	1
gamma-Chlordane	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Heptachlor	<0.039		0.039	ug/L		07/16/23 14:45	07/17/23 22:24	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Hexachlorobenzene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Isophorone	<0.49		0.49	ug/L		07/16/23 14:45	07/17/23 22:24	1
Malathion	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Methoxychlor	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Metolachlor	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Molinate	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	<0.29		0.29	ug/L		07/16/23 14:45	07/17/23 22:24	1
Parathion	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Phenanthrene	<0.039		0.039	ug/L		07/16/23 14:45	07/17/23 22:24	1
Propachlor	<0.049	^3+	0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Pyrene	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Simazine	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Terbacil	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Terbutylazine	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
Thiobencarb	<0.20		0.20	ug/L		07/16/23 14:45	07/17/23 22:24	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		07/16/23 14:45	07/17/23 22:24	1
trans-Nonachlor	<0.049		0.049	ug/L		07/16/23 14:45	07/17/23 22:24	1
Trifluralin	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
1-Methylnaphthalene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1
2-Methylnaphthalene	<0.098		0.098	ug/L		07/16/23 14:45	07/17/23 22:24	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.8	T J N	ug/L		2.32	124-18-5	07/16/23 14:45	07/17/23 22:24	1
Octadecanoic acid	0.54	T J N	ug/L		6.35	57-11-4	07/16/23 14:45	07/17/23 22:24	1
Hexazinone	0.12		ug/L		7.59	51235-04-2	07/16/23 14:45	07/17/23 22:24	1
1,3-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	1.1	T J N	ug/L		9.56	137-89-3	07/16/23 14:45	07/17/23 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	94		70 - 130	07/16/23 14:45	07/17/23 22:24	1
Perylene-d12	94		70 - 130	07/16/23 14:45	07/17/23 22:24	1
Triphenylphosphate	116		70 - 130	07/16/23 14:45	07/17/23 22:24	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	<0.042		0.042	ug/L		07/19/23 12:30	07/20/23 03:33	1
1,2-D bromo-3-Chloropropane	<0.010		0.010	ug/L		07/19/23 12:30	07/20/23 03:33	1
1,2-D bromoethane	<0.010		0.010	ug/L		07/19/23 12:30	07/20/23 03:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	107		60 - 140	07/19/23 12:30	07/20/23 03:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.010		0.010	ug/L		07/14/23 13:00	07/15/23 00:24	1
Dieldrin	0.024		0.010	ug/L		07/14/23 13:00	07/15/23 00:24	1
Toxaphene	<0.50		0.50	ug/L		07/14/23 13:00	07/15/23 00:24	1
Alachlor	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1
Chlordane (n.o.s.)	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1
Endrin	<0.010		0.010	ug/L		07/14/23 13:00	07/15/23 00:24	1
Heptachlor	<0.010		0.010	ug/L		07/14/23 13:00	07/15/23 00:24	1
Heptachlor epoxide	<0.010		0.010	ug/L		07/14/23 13:00	07/15/23 00:24	1
gamma-BHC (Lindane)	<0.010		0.010	ug/L		07/14/23 13:00	07/15/23 00:24	1
Methoxychlor	<0.050		0.050	ug/L		07/14/23 13:00	07/15/23 00:24	1
PCB-1016	<0.070		0.070	ug/L		07/14/23 13:00	07/15/23 00:24	1
PCB-1221	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1232	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1
PCB-1242	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1
PCB-1248	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1
PCB-1254	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1
PCB-1260	<0.070		0.070	ug/L		07/14/23 13:00	07/15/23 00:24	1
Polychlorinated biphenyls, Total	<0.10		0.10	ug/L		07/14/23 13:00	07/15/23 00:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		70 - 130	07/14/23 13:00	07/15/23 00:24	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	210		5.0	ug/L			07/20/23 00:34	1
Chloride	100		2.5	mg/L			07/14/23 04:22	5
Nitrate as N	0.54		0.25	mg/L			07/14/23 04:22	5
Nitrite as N	<0.25		0.25	mg/L			07/14/23 04:22	5
Sulfate	15		1.3	mg/L			07/14/23 04:22	5

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	18		1.0	mg/L			07/17/23 15:28	1
Magnesium	17		0.10	mg/L			07/17/23 15:28	1
Potassium	2.2		1.0	mg/L			07/17/23 15:28	1
Sodium	41		1.0	mg/L			07/17/23 15:28	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		07/24/23 10:16	07/25/23 13:56	1
Arsenic	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Beryllium	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Cadmium	<0.50		0.50	ug/L		07/24/23 10:16	07/25/23 13:56	1
Chromium	2.7		1.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Copper	7.0		2.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Lead	<0.50		0.50	ug/L		07/24/23 10:16	07/25/23 13:56	1
Nickel	<5.0		5.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Selenium	<5.0		5.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Silver	<0.50		0.50	ug/L		07/24/23 10:16	07/25/23 13:56	1
Thallium	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:56	1
Zinc	<20		20	ug/L		07/24/23 10:16	07/25/23 13:56	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		07/20/23 10:27	07/20/23 18:13	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	61		2.0	mg/L			07/14/23 22:09	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	61		2.0	mg/L			07/14/23 22:09	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<2.0		2.0	mg/L			07/14/23 22:09	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance (SM 2510B)	480		2.0	umhos/cm			07/14/23 22:09	1
Total Dissolved Solids (SM 2540C)	280		20	mg/L			07/14/23 17:33	1
Fluoride (SM 4500 F C)	<0.050		0.050	mg/L			07/17/23 16:01	1
pH (SM 4500 H+ B)	8.0	HF		SU			07/14/23 22:09	1
Sulfide (SM 4500 S2 D)	<0.050		0.050	mg/L			07/14/23 17:28	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		07/14/23 00:00	08/24/23 16:35	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Chlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Methylphenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Nitroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
2-Nitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
3-Nitroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
4-Chloroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
4-Nitroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
4-Nitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Acenaphthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Aniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Anthracene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzidine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzoic Acid	0.225		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
Biphenyl	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Chrysene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Dibenzofuran	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Fluoranthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Fluorene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Hexachloroethane	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Naphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Nitrobenzene	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Pentachlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Perylene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Phenanthrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1
Phenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 16:35	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 16:35	1
Pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	136		31 - 143	07/14/23 00:00	08/24/23 16:35	1
(d10-Acenaphthene)	97		27 - 133	07/14/23 00:00	08/24/23 16:35	1
(d10-Phenanthrene)	100		43 - 129	07/14/23 00:00	08/24/23 16:35	1
(d12-Chrysene)	96		52 - 144	07/14/23 00:00	08/24/23 16:35	1
(d12-Perylene)	103		36 - 161	07/14/23 00:00	08/24/23 16:35	1
(d5-Phenol)	80		0 - 85	07/14/23 00:00	08/24/23 16:35	1
(d8-Naphthalene)	85		25 - 125	07/14/23 00:00	08/24/23 16:35	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			07/17/23 11:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/17/23 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	83		60 - 140		07/17/23 14:22	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	0.027		mg/L			07/21/23 22:20	1
JP5	ND	U	0.053		mg/L			07/21/23 22:20	1
JP8	ND	U	0.053		mg/L			07/21/23 22:20	1
MOTOR OIL	ND	U	0.053		mg/L			07/21/23 22:20	1

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	75		60 - 130		07/21/23 22:20	1
HEXACOSANE	88		60 - 130		07/21/23 22:20	1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-54548-2

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	<2.0		2.0	ug/L			07/14/23 13:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		70 - 130		07/14/23 13:44	1
4-Bromofluorobenzene (Surr)	93		70 - 130		07/14/23 13:44	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		07/14/23 13:44	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			07/24/23 22:08	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,1-Dichloroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,1-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 22:08	1
1,1-Dichloropropene	<0.50		0.50	ug/L			07/24/23 22:08	1
1,2,3-Trichlorobenzene	<0.50	^3+	0.50	ug/L			07/24/23 22:08	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,2,4-Trichlorobenzene	<0.50	^3+	0.50	ug/L			07/24/23 22:08	1
1,2,4-Trimethy benzene	<0.50		0.50	ug/L			07/24/23 22:08	1
1,2-Dichloroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,2-Dichloropropane	<0.50		0.50	ug/L			07/24/23 22:08	1
1,3,5-Trimethy benzene	<0.50		0.50	ug/L			07/24/23 22:08	1
1,3-Dichloropropane	<0.50		0.50	ug/L			07/24/23 22:08	1
2,2-Dichloropropane	<0.50		0.50	ug/L			07/24/23 22:08	1
2-Butanone (MEK)	<5.0		5.0	ug/L			07/24/23 22:08	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			07/24/23 22:08	1
Acetone	<500	^3+	500	ug/L			07/24/23 22:08	1
Benzene	<0.50		0.50	ug/L			07/24/23 22:08	1
Bromobenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
Bromochloromethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Bromodichloromethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Bromoform	<0.50		0.50	ug/L			07/24/23 22:08	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			07/24/23 22:08	1
Carbon disulfide	<0.50		0.50	ug/L			07/24/23 22:08	1
Carbon tetrachloride	<0.50		0.50	ug/L			07/24/23 22:08	1
Chlorobenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
Chlorodibromomethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Chloroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			07/24/23 22:08	1
Dichloromethane	<0.50		0.50	ug/L			07/24/23 22:08	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 22:08	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-54548-2

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			07/24/23 22:08	1
Dibromomethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Ethylbenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
Hexachlorobutadiene	<0.50		0.50	ug/L			07/24/23 22:08	1
Isopropyl benzene	<0.50		0.50	ug/L			07/24/23 22:08	1
m,p-Xylenes	<0.50		0.50	ug/L			07/24/23 22:08	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			07/24/23 22:08	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			07/24/23 22:08	1
Naphthalene	<0.50	^3+	0.50	ug/L			07/24/23 22:08	1
n-Butylbenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
N-Propylbenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			07/24/23 22:08	1
o-Chlorotoluene	<0.50		0.50	ug/L			07/24/23 22:08	1
o-Xylene	<0.50		0.50	ug/L			07/24/23 22:08	1
p-Chlorotoluene	<0.50		0.50	ug/L			07/24/23 22:08	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			07/24/23 22:08	1
p-Isopropyltoluene	<0.50		0.50	ug/L			07/24/23 22:08	1
sec-Butylbenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
Styrene	<0.50		0.50	ug/L			07/24/23 22:08	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			07/24/23 22:08	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			07/24/23 22:08	1
tert-Butylbenzene	<0.50		0.50	ug/L			07/24/23 22:08	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			07/24/23 22:08	1
Toluene	<0.50		0.50	ug/L			07/24/23 22:08	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			07/24/23 22:08	1
Xylenes, Total	<0.50		0.50	ug/L			07/24/23 22:08	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 22:08	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			07/24/23 22:08	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			07/24/23 22:08	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			07/24/23 22:08	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			07/24/23 22:08	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Bromoethane	<0.50		0.50	ug/L			07/24/23 22:08	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			07/24/23 22:08	1
Diisopropyl ether	<3.0		3.0	ug/L			07/24/23 22:08	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.85	T J	ug/L		2.78	N/A		07/24/23 22:08	1
Furfural	5.5	T J	ug/L		9.59	N/A		07/24/23 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		07/24/23 22:08	1
4-Bromofluorobenzene (Surr)	105		70 - 130		07/24/23 22:08	1
Toluene-d8 (Surr)	108		70 - 130		07/24/23 22:08	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	<0.040		0.040	ug/L		07/19/23 12:30	07/20/23 04:05	1
1,2-D bromo-3-Chloropropane	<0.010		0.010	ug/L		07/19/23 12:30	07/20/23 04:05	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-54548-1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-54548-2

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-D bromoethane	<0.010		0.010	ug/L		07/19/23 12:30	07/20/23 04:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	107		60 - 140			07/19/23 12:30	07/20/23 04:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/17/23 16:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	83		60 - 140					07/17/23 16:12	1

Action Limit Summary

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org	EPAMCL	EPAMCL	Method	Prep Type
				Limit	Limit	S Limit		
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200		524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7		524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L	0.6000			524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50	^3+	ug/L	70.00	70		524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5		524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5		524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5		524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5		524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100		524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70		524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5		524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700		524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600		524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75		524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100		524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000		524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100		524.2	Total/NA
Trichloroethylene (TCE)	<0.50		ug/L	5.000	5		524.2	Total/NA
Vinyl Chloride (VC)	<0.30		ug/L	2.000	2		524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000		524.2	Total/NA
Alachlor	<0.049		ug/L		2		525.2	Total/NA
Atrazine	<0.049		ug/L		3		525.2	Total/NA
Benzo[a]pyrene	<0.020		ug/L		0.2		525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.59		ug/L		6		525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.59		ug/L		400		525.2	Total/NA
Endrin	<0.098		ug/L		2		525.2	Total/NA
gamma-BHC (Lindane)	<0.039		ug/L		0.2		525.2	Total/NA
Heptachlor	<0.039		ug/L		0.4		525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L		0.2		525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L		1		525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L		50		525.2	Total/NA
Methoxychlor	<0.098		ug/L		40		525.2	Total/NA
Simazine	<0.049		ug/L		4		525.2	Total/NA
1,2,3-Trichloropropane	<0.042		ug/L	0.6000			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
Chloride	100		mg/L			250	300.0	Total/NA
Nitrate as N	0.54		mg/L		10		300.0	Total/NA
Nitrite as N	<0.25		mg/L		1		300.0	Total/NA
Sulfate	15		mg/L			250	300.0	Total/NA
Mercury	<0.10		ug/L		2		245.1	Total/NA
Total Dissolved Solids	280		mg/L			500	SM 2540C	Total/NA
Fluoride	<0.050		mg/L		4	2	SM 4500 F C	Total/NA

Action Limit Summary

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

Job ID: 380-54548-1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-54548-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	RL	Method	Prep Type
1,1,1-Trichloroethane	<0.50		ug/L	200.0	200	0.50	524.2	Total/NA
1,1,2-Trichloroethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
1,1-Dichloroethylene	<0.50		ug/L	7.000	7	0.50	524.2	Total/NA
1,2,3-Trichloropropane	<0.50		ug/L	0.6000		0.50	524.2	Total/NA
1,2,4-Trichlorobenzene	<0.50	^3+	ug/L	70.00	70	0.50	524.2	Total/NA
1,2-Dichloroethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
1,2-Dichloropropane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Benzene	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Carbon tetrachloride	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Chlorobenzene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Dichloromethane	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
cis-1,2-Dichloroethylene	<0.50		ug/L	70.00	70	0.50	524.2	Total/NA
Ethylbenzene	<0.50		ug/L	700.0	700	0.50	524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	<0.50		ug/L	600.0	600	0.50	524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	<0.50		ug/L	75.000	75	0.50	524.2	Total/NA
Styrene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
Tetrachloroethene (PCE)	<0.50		ug/L	5.000	5	0.50	524.2	Total/NA
Toluene	<0.50		ug/L	1000	1000	0.50	524.2	Total/NA
Xylenes, Total	<0.50		ug/L	10000	10000	0.50	524.2	Total/NA
trans-1,2-Dichloroethylene	<0.50		ug/L	100.0	100	0.50	524.2	Total/NA
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	<0.040		ug/L	0.6000		0.040	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: 380-54548-1

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)
380-54548-1	MOANALUA WELLS	94	98	102
380-54548-2	TB: MOANALUA WELLS	93	93	105
LCS 380-47356/2	Lab Control Sample	96	90	95
LCSD 380-47356/3	Lab Control Sample Dup	97	90	96
MB 380-47356/5	Method Blank	97	102	105

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TOL (50-150)	BFB (50-150)	DCA (50-150)
MRL 380-47356/4	Lab Control Sample	95	96	103

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)
380-54548-1	MOANALUA WELLS	101	98	103
380-54548-2	TB: MOANALUA WELLS	103	105	108
LCS 380-48583/12	Lab Control Sample	102	101	101
LCSD 380-48583/13	Lab Control Sample Dup	101	103	102
MB 380-48583/14	Method Blank	102	100	104
MRL 380-48583/10	Lab Control Sample	99	104	99
MRL 380-48583/11	Lab Control Sample	101	100	100

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

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

Matrix: 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)
380-54518-B-6-A MS	Matrix Spike	93	93	116
380-54518-B-6-B MSD	Matrix Spike Duplicate	88	88	114
380-54548-1	MOANALUA WELLS	94	94	116

Surrogate Summary

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

Job ID: 380-54548-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2NMX (70-130)	PRY (70-130)	TPP (70-130)
LCS 380-47490/23-A	Lab Control Sample	93	89	109
LCS 380-47490/24-A	Lab Control Sample Dup	94	91	116
MB 380-47490/21-A	Method Blank	94	84	114
MRL 380-47490/22-A	Lab Control Sample	94	89	113

Surrogate Legend

2NMX = 2-Nitro-m-xylene

PRY = Perylene-d12

TPP = Triphenylphosphate

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBPP1 (60-140)
380-54369-B-10-A MS	Matrix Spike	108
380-54369-F-11-A DU	Duplicate	106
380-54548-1	MOANALUA WELLS	107
380-54548-2	TB: MOANALUA WELLS	107
LCS 380-47957/3-A	Lab Control Sample	106
MBL 380-47957/4-A	Method Blank	112
MRL 380-47957/1-A	Lab Control Sample	110
MRL 380-47957/2-A	Lab Control Sample	115

Surrogate Legend

DBPP = 1,2-D bromopropane (Surr)

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (70-130)
380-54465-B-1-A MS	Matrix Spike	95
380-54465-B-2-A MS	Matrix Spike	104
380-54465-C-1-A MS	Matrix Spike	93
380-54465-C-2-A MS	Matrix Spike	83
380-54548-1	MOANALUA WELLS	95
LCS 380-47197/10-A	Lab Control Sample	95
LCS 380-47197/17-A	Lab Control Sample	100
LCS 380-47197/24-A	Lab Control Sample	105
LCS 380-47197/31-A	Lab Control Sample	100
MBL 380-47348/4-A	Method Blank	111
MRL 380-47348/2-A	Lab Control Sample	97
MRL 380-47348/3-A	Lab Control Sample	100

Surrogate Legend

TCX = Tetrachloro-m-xylene

Surrogate Summary

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

Job ID: 380-54548-1

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)
108337-B1	Method Blank	104	101	97	96	95	102	45
108337-BS1	Lab Control Sample	106	101	98	99	111	104	58
108337-BS2	Lab Control Sample Dup	105	101	99	96	85	106	58

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

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)
380-54548-1	MOANALUA WELLS	97	100	96	85	80	103	136

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)
23G106-01M	Matrix Spike	108
23G106-01S	Matrix Spike Duplicate	102

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
23VG39G08B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-54548-1

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (70-130)
23VG39G08C	LCD	107
23VG39G08L	Lab Control Sample	109

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-54548-1	MOANALUA WELLS	83
380-54548-2	TB: MOANALUA WELLS	83

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23DSG024WC	LCD	73	98
23DSG024WL	Lab Control Sample	68	91
23G106-01M	Matrix Spike	69	101
23G106-01M	Matrix Spike	71	85
23G106-01S	Matrix Spike Duplicate	77	92
23G106-01S	Matrix Spike Duplicate	63	87
23J5G024WC	LCD	81	90
23J5G024WL	Lab Control Sample	75	88
23J8G024WC	LCD	96	90
23J8G024WL	Lab Control Sample	87	92

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
23DSG024WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Surrogate Summary

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

Job ID: 380-54548-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	HEXACOSANE (60-130)
380-54548-1	MOANALUA WELLS	75	88

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MB 380-48583/14
Matrix: Water
Analysis Batch: 48583

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			07/24/23 17:52	1
1,1,1-Trichloroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,1,2-Trichloroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,1-Dichloroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,1-Dichlorethylene	<0.50		0.50	ug/L			07/24/23 17:52	1
1,1-Dichloropropene	<0.50		0.50	ug/L			07/24/23 17:52	1
1,2,3-Trichlorobenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
1,2,3-Trichloropropane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,2,4-Trichlorobenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
1,2,4-Trimethy benzene	<0.50		0.50	ug/L			07/24/23 17:52	1
1,2-Dichloroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,2-Dichloropropane	<0.50		0.50	ug/L			07/24/23 17:52	1
1,3,5-Trimethy benzene	<0.50		0.50	ug/L			07/24/23 17:52	1
1,3-Dichloropropane	<0.50		0.50	ug/L			07/24/23 17:52	1
2,2-Dichloropropane	<0.50		0.50	ug/L			07/24/23 17:52	1
2-Butanone (MEK)	<5.0		5.0	ug/L			07/24/23 17:52	1
4-Methyl-2-pentanone (MIBK)	<5.0		5.0	ug/L			07/24/23 17:52	1
Acetone	<500		500	ug/L			07/24/23 17:52	1
Benzene	<0.50		0.50	ug/L			07/24/23 17:52	1
Bromobenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
Bromochloromethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Bromodichloromethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Bromoform	<0.50		0.50	ug/L			07/24/23 17:52	1
Bromomethane (Methyl Bromide)	<0.50		0.50	ug/L			07/24/23 17:52	1
Carbon disulfide	<0.50		0.50	ug/L			07/24/23 17:52	1
Carbon tetrachloride	<0.50		0.50	ug/L			07/24/23 17:52	1
Chlorobenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
Chlorodibromomethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Chloroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Chloroform (Trichloromethane)	<0.50		0.50	ug/L			07/24/23 17:52	1
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 17:52	1
cis-1,3-Dichloropropene	<0.50		0.50	ug/L			07/24/23 17:52	1
Dibromomethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Dichlorodifluoromethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Dichloromethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Ethylbenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
Hexachlorobutadiene	<0.50		0.50	ug/L			07/24/23 17:52	1
Isopropy benzene	<0.50		0.50	ug/L			07/24/23 17:52	1
m,p-Xylenes	<0.50		0.50	ug/L			07/24/23 17:52	1
m-Dichlorobenzene (1,3-DCB)	<0.50		0.50	ug/L			07/24/23 17:52	1
Methyl-tert-butyl Ether (MTBE)	<0.50		0.50	ug/L			07/24/23 17:52	1
Naphthalene	<0.50		0.50	ug/L			07/24/23 17:52	1
n-Butylbenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
N-Propylbenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
o-Chlorotoluene	<0.50		0.50	ug/L			07/24/23 17:52	1
o-Dichlorobenzene (1,2-DCB)	<0.50		0.50	ug/L			07/24/23 17:52	1
o-Xylene	<0.50		0.50	ug/L			07/24/23 17:52	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MB 380-48583/14
Matrix: Water
Analysis Batch: 48583

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			07/24/23 17:52	1
p-Dichlorobenzene (1,4-DCB)	<0.50		0.50	ug/L			07/24/23 17:52	1
p-Isopropyltoluene	<0.50		0.50	ug/L			07/24/23 17:52	1
sec-Butylbenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
Styrene	<0.50		0.50	ug/L			07/24/23 17:52	1
Tert-amyl methyl ether	<3.0		3.0	ug/L			07/24/23 17:52	1
1,3-Dichloropropene, Total	<0.50		0.50	ug/L			07/24/23 17:52	1
Tert-butyl ethyl ether	<3.0		3.0	ug/L			07/24/23 17:52	1
tert-Butylbenzene	<0.50		0.50	ug/L			07/24/23 17:52	1
Tetrachloroethene (PCE)	<0.50		0.50	ug/L			07/24/23 17:52	1
Toluene	<0.50		0.50	ug/L			07/24/23 17:52	1
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L			07/24/23 17:52	1
trans-1,3-Dichloropropene	<0.50		0.50	ug/L			07/24/23 17:52	1
Trichloroethylene (TCE)	<0.50		0.50	ug/L			07/24/23 17:52	1
Bromoethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Trichlorofluoromethane (Freon 11)	<0.50		0.50	ug/L			07/24/23 17:52	1
Chloromethane (methyl chloride)	<0.50		0.50	ug/L			07/24/23 17:52	1
Trichlorotrifluoroethane	<0.50		0.50	ug/L			07/24/23 17:52	1
Diisopropyl ether	<3.0		3.0	ug/L			07/24/23 17:52	1
Vinyl Chloride (VC)	<0.30		0.30	ug/L			07/24/23 17:52	1
Xylenes, Total	<0.50		0.50	ug/L			07/24/23 17:52	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		07/24/23 17:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130		07/24/23 17:52	1
4-Bromofluorobenzene (Surr)	100		70 - 130		07/24/23 17:52	1
Toluene-d8 (Surr)	104		70 - 130		07/24/23 17:52	1

Lab Sample ID: LCS 380-48583/12
Matrix: Water
Analysis Batch: 48583

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	4.60		ug/L		92	70 - 130
1,1,1-Trichloroethane	5.00	4.28		ug/L		86	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.76		ug/L		95	70 - 130
1,1,2-Trichloroethane	5.00	4.44		ug/L		89	70 - 130
1,1-Dichloroethane	5.00	4.66		ug/L		93	70 - 130
1,1-Dichlorethylene	5.00	4.55		ug/L		91	70 - 130
1,1-Dichloropropene	5.00	4.25		ug/L		85	70 - 130
1,2,3-Trichlorobenzene	5.00	5.33		ug/L		107	70 - 130
1,2,3-Trichloropropane	5.00	5.16		ug/L		103	70 - 130
1,2,4-Trichlorobenzene	5.00	4.89		ug/L		98	70 - 130
1,2,4-Trimethy benzene	5.00	5.00		ug/L		100	70 - 130
1,2-Dichloroethane	5.00	4.67		ug/L		93	70 - 130
1,2-Dichloropropane	5.00	4.48		ug/L		90	70 - 130

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCS 380-48583/12
Matrix: Water
Analysis Batch: 48583

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethy benzene	5.00	4.67		ug/L		93	70 - 130
1,3-Dichloropropane	5.00	4.96		ug/L		99	70 - 130
2,2-Dichloropropane	5.00	3.97		ug/L		79	70 - 130
2-Butanone (MEK)	50.0	42.2		ug/L		84	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	50.6		ug/L		101	70 - 130
Acetone	50.0	50.4	J	ug/L		101	70 - 130
Benzene	5.00	4.81		ug/L		96	70 - 130
Bromobenzene	5.00	4.64		ug/L		93	70 - 130
Bromochloromethane	5.00	4.03		ug/L		81	70 - 130
Bromodichloromethane	5.00	4.31		ug/L		86	70 - 130
Bromoform	5.00	3.82		ug/L		76	70 - 130
Bromomethane (Methyl Bromide)	5.00	3.87		ug/L		77	70 - 130
Carbon disulfide	5.00	3.60		ug/L		72	70 - 130
Carbon tetrachloride	5.00	3.87		ug/L		77	70 - 130
Chlorobenzene	5.00	5.04		ug/L		101	70 - 130
Chlorodibromomethane	5.00	3.86		ug/L		77	70 - 130
cis-1,3-Dichloropropene	5.00	4.27		ug/L		85	70 - 130
Dichloromethane	5.00	4.51		ug/L		90	70 - 130
Ethylbenzene	5.00	5.01		ug/L		100	70 - 130
Hexachlorobutadiene	5.00	4.99		ug/L		100	70 - 130
Isopropyl benzene	5.00	4.85		ug/L		97	70 - 130
m,p-Xylenes	10.0	9.42		ug/L		94	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.03		ug/L		101	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.87		ug/L		97	70 - 130
Naphthalene	5.00	5.05		ug/L		101	70 - 130
n-Butylbenzene	5.00	4.59		ug/L		92	70 - 130
N-Propylbenzene	5.00	5.14		ug/L		103	70 - 130
o-Chlorotoluene	5.00	4.84		ug/L		97	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.76		ug/L		95	70 - 130
o-Xylene	5.00	5.08		ug/L		102	70 - 130
p-Chlorotoluene	5.00	4.56		ug/L		91	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.02		ug/L		100	70 - 130
p-Isopropyltoluene	5.00	4.52		ug/L		90	70 - 130
sec-Butylbenzene	5.00	4.50		ug/L		90	70 - 130
Styrene	5.00	4.86		ug/L		97	70 - 130
Tert-amyl methyl ether	5.00	4.74		ug/L		95	70 - 130
1,3-Dichloropropene, Total	10.0	8.51		ug/L		85	70 - 130
Tert-butyl ethyl ether	5.00	4.85		ug/L		97	70 - 130
tert-Butylbenzene	5.00	5.05		ug/L		101	70 - 130
Tetrachloroethene (PCE)	5.00	4.48		ug/L		90	70 - 130
Toluene	5.00	4.51		ug/L		90	70 - 130
trans-1,2-Dichloroethylene	5.00	4.52		ug/L		90	70 - 130
trans-1,3-Dichloropropene	5.00	4.24		ug/L		85	70 - 130
Trichloroethylene (TCE)	5.00	4.63		ug/L		93	70 - 130
Bromoethane	5.00	3.96		ug/L		79	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.22		ug/L		84	70 - 130
Trichlorotrifluoroethane	5.00	4.83		ug/L		97	70 - 130
Diisopropyl ether	5.00	4.71		ug/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCS 380-48583/12
Matrix: Water
Analysis Batch: 48583

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	4.56		ug/L		91	70 - 130
Xylenes, Total	15.0	14.5		ug/L		97	70 - 130

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

Lab Sample ID: LCSD 380-48583/13
Matrix: Water
Analysis Batch: 48583

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	4.58		ug/L		92	70 - 130	0	20
1,1,1-Trichloroethane	5.00	4.41		ug/L		88	70 - 130	3	20
1,1,2,2-Tetrachloroethane	5.00	5.40		ug/L		108	70 - 130	13	20
1,1,2-Trichloroethane	5.00	4.97		ug/L		99	70 - 130	11	20
1,1-Dichloroethane	5.00	4.65		ug/L		93	70 - 130	0	20
1,1-Dichlorethylene	5.00	4.74		ug/L		95	70 - 130	4	20
1,1-Dichloropropene	5.00	4.31		ug/L		86	70 - 130	1	20
1,2,3-Trichlorobenzene	5.00	5.82		ug/L		116	70 - 130	9	20
1,2,3-Trichloropropane	5.00	5.63		ug/L		113	70 - 130	9	20
1,2,4-Trichlorobenzene	5.00	5.23		ug/L		105	70 - 130	7	20
1,2,4-Trimethy benzene	5.00	5.27		ug/L		105	70 - 130	5	20
1,2-Dichloroethane	5.00	4.86		ug/L		97	70 - 130	4	20
1,2-Dichloropropane	5.00	4.63		ug/L		93	70 - 130	3	20
1,3,5-Trimethy benzene	5.00	4.92		ug/L		98	70 - 130	5	20
1,3-Dichloropropane	5.00	5.04		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	5.00	4.34		ug/L		87	70 - 130	9	20
2-Butanone (MEK)	50.0	51.8		ug/L		104	70 - 130	20	20
4-Methyl-2-pentanone (MIBK)	50.0	53.8		ug/L		108	70 - 130	6	20
Acetone	50.0	52.5	J	ug/L		105	70 - 130	4	20
Benzene	5.00	5.01		ug/L		100	70 - 130	4	20
Bromobenzene	5.00	4.80		ug/L		96	70 - 130	3	20
Bromochloromethane	5.00	4.29		ug/L		86	70 - 130	6	20
Bromodichloromethane	5.00	4.50		ug/L		90	70 - 130	4	20
Bromoform	5.00	3.97		ug/L		79	70 - 130	4	20
Bromomethane (Methyl Bromide)	5.00	4.19		ug/L		84	70 - 130	8	20
Carbon disulfide	5.00	3.90		ug/L		78	70 - 130	8	20
Carbon tetrachloride	5.00	3.91		ug/L		78	70 - 130	1	20
Chlorobenzene	5.00	5.08		ug/L		102	70 - 130	1	20
Chlorodibromomethane	5.00	4.28		ug/L		86	70 - 130	10	20
cis-1,3-Dichloropropene	5.00	4.61		ug/L		92	70 - 130	8	20
Dichloromethane	5.00	4.77		ug/L		95	70 - 130	6	20
Ethylbenzene	5.00	5.10		ug/L		102	70 - 130	2	20
Hexachlorobutadiene	5.00	5.26		ug/L		105	70 - 130	5	20
Isopropy benzene	5.00	5.23		ug/L		105	70 - 130	8	20
m,p-Xylenes	10.0	10.3		ug/L		103	70 - 130	9	20

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCSD 380-48583/13
Matrix: Water
Analysis Batch: 48583

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m-Dichlorobenzene (1,3-DCB)	5.00	5.32		ug/L		106	70 - 130	6	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.10		ug/L		102	70 - 130	5	20
Naphthalene	5.00	5.60		ug/L		112	70 - 130	10	20
n-Butylbenzene	5.00	4.77		ug/L		95	70 - 130	4	20
N-Propylbenzene	5.00	5.27		ug/L		105	70 - 130	2	20
o-Chlorotoluene	5.00	5.26		ug/L		105	70 - 130	8	20
o-Dichlorobenzene (1,2-DCB)	5.00	4.93		ug/L		99	70 - 130	3	20
o-Xylene	5.00	5.22		ug/L		104	70 - 130	3	20
p-Chlorotoluene	5.00	4.96		ug/L		99	70 - 130	8	20
p-Dichlorobenzene (1,4-DCB)	5.00	5.38		ug/L		108	70 - 130	7	20
p-Isopropyltoluene	5.00	4.86		ug/L		97	70 - 130	7	20
sec-Butylbenzene	5.00	4.79		ug/L		96	70 - 130	6	20
Styrene	5.00	4.87		ug/L		97	70 - 130	0	20
Tert-amyl methyl ether	5.00	4.94		ug/L		99	70 - 130	4	20
1,3-Dichloropropene, Total	10.0	8.98		ug/L		90	70 - 130	5	20
Tert-butyl ethyl ether	5.00	4.97		ug/L		99	70 - 130	2	20
tert-Butylbenzene	5.00	5.34		ug/L		107	70 - 130	6	20
Tetrachloroethene (PCE)	5.00	4.79		ug/L		96	70 - 130	7	20
Toluene	5.00	4.74		ug/L		95	70 - 130	5	20
trans-1,2-Dichloroethylene	5.00	4.58		ug/L		92	70 - 130	1	20
trans-1,3-Dichloropropene	5.00	4.37		ug/L		87	70 - 130	3	20
Trichloroethylene (TCE)	5.00	4.71		ug/L		94	70 - 130	2	20
Bromoethane	5.00	4.18		ug/L		84	70 - 130	5	20
Trichlorofluoromethane (Freon 11)	5.00	4.65		ug/L		93	70 - 130	10	20
Trichlorotrifluoroethane	5.00	4.94		ug/L		99	70 - 130	2	20
Diisopropyl ether	5.00	4.85		ug/L		97	70 - 130	3	20
Vinyl Chloride (VC)	5.00	4.62		ug/L		92	70 - 130	1	20
Xylenes, Total	15.0	15.5		ug/L		103	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: MRL 380-48583/10
Matrix: Water
Analysis Batch: 48583

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	0.578		ug/L		116	50 - 150
Vinyl Chloride (VC)	0.250	0.247	J	ug/L		99	50 - 150

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

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MRL 380-48583/11
Matrix: Water
Analysis Batch: 48583

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	0.365	J	ug/L		73	50 - 150
1,1,1-Trichloroethane	0.500	0.445	J	ug/L		89	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.559		ug/L		112	50 - 150
1,1,2-Trichloroethane	0.500	0.457	J	ug/L		91	50 - 150
1,1-Dichloroethane	0.500	0.549		ug/L		110	50 - 150
1,1-Dichlorethylene	0.500	0.518		ug/L		104	50 - 150
1,1-Dichloropropene	0.500	0.508		ug/L		102	50 - 150
1,2,3-Trichlorobenzene	0.500	1.31	^3+	ug/L		262	50 - 150
1,2,3-Trichloropropane	0.500	0.553		ug/L		111	50 - 150
1,2,4-Trichlorobenzene	0.500	0.996	^3+	ug/L		199	50 - 150
1,2,4-Trimethy benzene	0.500	0.616		ug/L		123	50 - 150
1,2-Dichloroethane	0.500	0.547		ug/L		109	50 - 150
1,2-Dichloropropane	0.500	0.525		ug/L		105	50 - 150
1,3,5-Trimethy benzene	0.500	0.545		ug/L		109	50 - 150
1,3-Dichloropropane	0.500	0.497	J	ug/L		99	50 - 150
2,2-Dichloropropane	0.500	0.494	J	ug/L		99	50 - 150
2-Butanone (MEK)	5.00	5.14		ug/L		103	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	5.68		ug/L		114	50 - 150
Acetone	5.00	7.90	J ^3+	ug/L		158	50 - 150
Benzene	0.500	0.583		ug/L		117	50 - 150
Bromobenzene	0.500	0.490	J	ug/L		98	50 - 150
Bromochloromethane	0.500	0.488	J	ug/L		98	50 - 150
Bromodichloromethane	0.500	0.454	J	ug/L		91	50 - 150
Bromoform	0.500	0.362	J	ug/L		72	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.376	J	ug/L		75	50 - 150
Carbon disulfide	0.500	0.392	J	ug/L		78	50 - 150
Carbon tetrachloride	0.500	0.394	J	ug/L		79	50 - 150
Chlorobenzene	0.500	0.540		ug/L		108	50 - 150
Chlorodibromomethane	0.500	0.377	J	ug/L		75	50 - 150
cis-1,3-Dichloropropene	0.500	0.397	J	ug/L		79	50 - 150
Dichloromethane	0.500	0.576		ug/L		115	50 - 150
Ethylbenzene	0.500	0.571		ug/L		114	50 - 150
Hexachlorobutadiene	0.500	0.722		ug/L		144	50 - 150
Isopropy benzene	0.500	0.595		ug/L		119	50 - 150
m,p-Xylenes	1.00	1.07		ug/L		107	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.614		ug/L		123	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.549		ug/L		110	50 - 150
Naphthalene	0.500	1.11	^3+	ug/L		222	50 - 150
n-Butylbenzene	0.500	0.579		ug/L		116	50 - 150
N-Propylbenzene	0.500	0.587		ug/L		117	50 - 150
o-Chlorotoluene	0.500	0.590		ug/L		118	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.648		ug/L		130	50 - 150
o-Xylene	0.500	0.557		ug/L		111	50 - 150
p-Chlorotoluene	0.500	0.550		ug/L		110	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.570		ug/L		114	50 - 150
p-Isopropyltoluene	0.500	0.530		ug/L		106	50 - 150
sec-Butylbenzene	0.500	0.559		ug/L		112	50 - 150
Styrene	0.500	0.508		ug/L		102	50 - 150

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MRL 380-48583/11
Matrix: Water
Analysis Batch: 48583

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Tert-amyl methyl ether	0.500	0.551	J	ug/L		110	50 - 150
1,3-Dichloropropene, Total	1.00	0.794		ug/L		79	50 - 150
Tert-butyl ethyl ether	0.500	0.594	J	ug/L		119	50 - 150
tert-Butylbenzene	0.500	0.584		ug/L		117	50 - 150
Tetrachloroethene (PCE)	0.500	0.477	J	ug/L		95	50 - 150
Toluene	0.500	0.555		ug/L		111	50 - 150
trans-1,2-Dichloroethylene	0.500	0.509		ug/L		102	50 - 150
trans-1,3-Dichloropropene	0.500	0.397	J	ug/L		79	50 - 150
Trichloroethylene (TCE)	0.500	0.471	J	ug/L		94	50 - 150
Bromoethane	0.500	0.560		ug/L		112	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.483	J	ug/L		97	50 - 150
Trichlorotrifluoroethane	0.500	0.521		ug/L		104	50 - 150
Diisopropyl ether	0.500	0.610	J	ug/L		122	50 - 150
Vinyl Chloride (VC)	0.500	0.502		ug/L		100	50 - 150
Xylenes, Total	1.50	1.62		ug/L		108	50 - 150

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

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

Lab Sample ID: MB 380-47356/5
Matrix: Water
Analysis Batch: 47356

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			07/14/23 11:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		70 - 130		07/14/23 11:01	1
4-Bromofluorobenzene (Surr)	102		70 - 130		07/14/23 11:01	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 130		07/14/23 11:01	1

Lab Sample ID: LCS 380-47356/2
Matrix: Water
Analysis Batch: 47356

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	5.56		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	90		70 - 130
1,2-Dichloroethane-d4 (Surr)	95		70 - 130

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCSD 380-47356/3
Matrix: Water
Analysis Batch: 47356

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tertiary Butyl Alcohol (TBA)	5.00	5.56		ug/L		111	70 - 130	0	20
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	97		70 - 130						
4-Bromofluorobenzene (Surr)	90		70 - 130						
1,2-Dichloroethane-d4 (Surr)	96		70 - 130						

Lab Sample ID: MRL 380-47356/4
Matrix: Water
Analysis Batch: 47356

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	2.33		ug/L		116	50 - 150		
MRL MRL									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	95		50 - 150						
4-Bromofluorobenzene (Surr)	96		50 - 150						
1,2-Dichloroethane-d4 (Surr)	103		50 - 150						

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

Lab Sample ID: MB 380-47490/21-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47490

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
2,4'-DDE	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
2,4'-DDT	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
2,4-Dinitrotoluene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
2,6-Dinitrotoluene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
4,4'-DDD	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
4,4'-DDE	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
4,4'-DDT	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Acenaphthene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Acenaphthylene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Acetochlor	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Alachlor	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
alpha-BHC	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
alpha-Chlordane	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Anthracene	<0.020		0.020	ug/L		07/16/23 13:17	07/17/23 16:24	1
Atrazine	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Benz(a)anthracene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Benzo[a]pyrene	<0.020		0.020	ug/L		07/16/23 13:17	07/17/23 16:24	1
Benzo[b]fluoranthene	<0.020		0.020	ug/L		07/16/23 13:17	07/17/23 16:24	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Benzo[k]fluoranthene	<0.020		0.020	ug/L		07/16/23 13:17	07/17/23 16:24	1
beta-BHC	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MB 380-47490/21-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47490

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Bis(2-ethylhexyl) phthalate	<0.59		0.59	ug/L		07/16/23 13:17	07/17/23 16:24	1
Bromacil	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Butachlor	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Butylbenzylphthalate	<0.49		0.49	ug/L		07/16/23 13:17	07/17/23 16:24	1
Chlorobenzilate	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Chloroneb	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Chlorothalonil (Draconil, Bravo)	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Chlorpyrifos	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Chrysene	<0.020		0.020	ug/L		07/16/23 13:17	07/17/23 16:24	1
delta-BHC	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Di(2-ethylhexyl)adipate	<0.59		0.59	ug/L		07/16/23 13:17	07/17/23 16:24	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Dieldrin	<0.20		0.20	ug/L		07/16/23 13:17	07/17/23 16:24	1
Diethylphthalate	<0.49		0.49	ug/L		07/16/23 13:17	07/17/23 16:24	1
Dimethylphthalate	<0.49		0.49	ug/L		07/16/23 13:17	07/17/23 16:24	1
Di-n-butyl phthalate	<0.98		0.98	ug/L		07/16/23 13:17	07/17/23 16:24	1
Di-n-octyl phthalate	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Endosulfan I (Alpha)	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Endosulfan II (Beta)	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Endosulfan sulfate	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Endrin	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Endrin aldehyde	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
EPTC	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Fluoranthene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Fluorene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
gamma-BHC (Lindane)	<0.039		0.039	ug/L		07/16/23 13:17	07/17/23 16:24	1
gamma-Chlordane	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Heptachlor	<0.039		0.039	ug/L		07/16/23 13:17	07/17/23 16:24	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Hexachlorobenzene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Isophorone	<0.49		0.49	ug/L		07/16/23 13:17	07/17/23 16:24	1
Malathion	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Methoxychlor	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Metolachlor	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Molinate	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Naphthalene	<0.30		0.30	ug/L		07/16/23 13:17	07/17/23 16:24	1
Parathion	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Pendimethalin (Penoxaline)	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Phenanthrene	<0.039		0.039	ug/L		07/16/23 13:17	07/17/23 16:24	1
Propachlor	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Pyrene	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Simazine	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Terbacil	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Terbutylazine	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
Thiobencarb	<0.20		0.20	ug/L		07/16/23 13:17	07/17/23 16:24	1
Total Permethrin (mixed isomers)	<0.20		0.20	ug/L		07/16/23 13:17	07/17/23 16:24	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MB 380-47490/21-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47490

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
trans-Nonachlor	<0.049		0.049	ug/L		07/16/23 13:17	07/17/23 16:24	1
Trifluralin	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
1-Methylnaphthalene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	1
2-Methylnaphthalene	<0.098		0.098	ug/L		07/16/23 13:17	07/17/23 16:24	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	07/16/23 13:17	07/17/23 16:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	94		70 - 130	07/16/23 13:17	07/17/23 16:24	1
Perylene-d12	84		70 - 130	07/16/23 13:17	07/17/23 16:24	1
Triphenylphosphate	114		70 - 130	07/16/23 13:17	07/17/23 16:24	1

Lab Sample ID: LCS 380-47490/23-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.97	2.04		ug/L		103	70 - 130
2,4'-DDE	1.97	1.99		ug/L		101	70 - 130
2,4'-DDT	1.97	2.18		ug/L		111	70 - 130
2,4-Dinitrotoluene	1.97	2.28		ug/L		116	70 - 130
2,6-Dinitrotoluene	1.97	2.21		ug/L		112	70 - 130
4,4'-DDD	1.97	2.17		ug/L		110	70 - 130
4,4'-DDE	1.97	2.24		ug/L		114	70 - 130
4,4'-DDT	1.97	2.12		ug/L		107	70 - 130
Acenaphthene	1.97	1.90		ug/L		96	70 - 130
Acenaphthylene	1.97	1.90		ug/L		97	70 - 130
Acetochlor	1.97	1.96		ug/L		99	70 - 130
Alachlor	1.97	1.92		ug/L		97	70 - 130
alpha-BHC	1.97	1.93		ug/L		98	70 - 130
alpha-Chlordane	1.97	2.33		ug/L		118	70 - 130
Anthracene	1.97	1.97		ug/L		100	70 - 130
Atrazine	1.97	2.32		ug/L		118	70 - 130
Benz(a)anthracene	1.97	2.23		ug/L		113	70 - 130
Benzo[a]pyrene	1.97	2.04		ug/L		104	70 - 130
Benzo[b]fluoranthene	1.97	2.25		ug/L		114	70 - 130
Benzo[g,h,i]perylene	1.97	1.82		ug/L		92	70 - 130
Benzo[k]fluoranthene	1.97	2.32		ug/L		118	70 - 130
beta-BHC	1.97	1.93		ug/L		98	70 - 130
Bis(2-ethylhexyl) phthalate	1.97	1.84		ug/L		93	70 - 130
Bromacil	1.97	2.14		ug/L		109	70 - 130
Butachlor	1.97	2.10		ug/L		107	70 - 130
Butylbenzylphthalate	1.97	2.18		ug/L		110	70 - 130
Chlorobenzilate	1.97	1.87		ug/L		95	70 - 130
Chloroneb	1.97	2.07		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	1.97	1.91		ug/L		97	70 - 130
Chlorpyrifos	1.97	2.14		ug/L		109	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCS 380-47490/23-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chrysene	1.97	2.12		ug/L		107	70 - 130
delta-BHC	1.97	1.77		ug/L		90	70 - 130
Di(2-ethylhexyl)adipate	1.97	2.02		ug/L		103	70 - 130
Dibenz(a,h)anthracene	1.97	2.21		ug/L		112	70 - 130
Diclorvos (DDVP)	1.97	2.11		ug/L		107	70 - 130
Dieldrin	1.97	1.92		ug/L		97	70 - 130
Diethylphthalate	1.97	2.06		ug/L		105	70 - 130
Dimethylphthalate	1.97	2.15		ug/L		109	70 - 130
Di-n-butyl phthalate	3.94	4.18		ug/L		106	70 - 130
Di-n-octyl phthalate	1.97	1.70		ug/L		86	70 - 130
Endosulfan I (Alpha)	1.97	1.74		ug/L		88	70 - 130
Endosulfan II (Beta)	1.97	1.94		ug/L		99	70 - 130
Endosulfan sulfate	1.97	2.10		ug/L		106	70 - 130
Endrin	1.97	1.99		ug/L		101	70 - 130
Endrin aldehyde	1.97	2.08		ug/L		106	70 - 130
EPTC	1.97	2.08		ug/L		105	70 - 130
Fluoranthene	1.97	2.18		ug/L		111	70 - 130
Fluorene	1.97	2.10		ug/L		106	70 - 130
gamma-BHC (Lindane)	1.97	1.96		ug/L		100	70 - 130
gamma-Chlordane	1.97	2.23		ug/L		113	70 - 130
Heptachlor	1.97	2.02		ug/L		102	70 - 130
Heptachlor epoxide (isomer B)	1.97	2.23		ug/L		113	70 - 130
Hexachlorobenzene	1.97	2.32		ug/L		118	70 - 130
Hexachlorocyclopentadiene	1.97	2.13		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	1.97	2.15		ug/L		109	70 - 130
Isophorone	1.97	1.91		ug/L		97	70 - 130
Malathion	1.97	2.03		ug/L		103	70 - 130
Methoxychlor	1.97	2.14		ug/L		109	70 - 130
Metolachlor	1.97	2.06		ug/L		105	70 - 130
Molinate	1.97	2.13		ug/L		108	70 - 130
Naphthalene	1.97	2.00		ug/L		102	70 - 130
Parathion	1.97	2.20		ug/L		112	70 - 130
Pendimethalin (Penoxaline)	1.97	2.10		ug/L		107	70 - 130
Phenanthrene	1.97	1.98		ug/L		100	70 - 130
Propachlor	1.97	1.95		ug/L		99	70 - 130
Pyrene	1.97	2.21		ug/L		112	70 - 130
Simazine	1.97	2.34		ug/L		119	70 - 130
Terbacil	1.97	2.33		ug/L		118	70 - 130
Terbutylazine	1.97	2.29		ug/L		116	70 - 130
Thiobencarb	1.97	1.97		ug/L		100	70 - 130
trans-Nonachlor	1.97	2.49		ug/L		126	70 - 130
Trifluralin	1.97	1.97		ug/L		100	70 - 130
1-Methylnaphthalene	1.97	2.01		ug/L		102	70 - 130
2-Methylnaphthalene	1.97	2.06		ug/L		105	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	93		70 - 130
Perylene-d12	89		70 - 130

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCS 380-47490/23-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47490

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Triphenylphosphate	109		70 - 130

Lab Sample ID: LCSD 380-47490/24-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	
2,4'-DDD	1.97	2.02		ug/L		103	70 - 130	1		20
2,4'-DDE	1.97	2.02		ug/L		103	70 - 130	1		20
2,4'-DDT	1.97	2.18		ug/L		111	70 - 130	0		20
2,4-Dinitrotoluene	1.97	2.28		ug/L		116	70 - 130	0		20
2,6-Dinitrotoluene	1.97	2.16		ug/L		110	70 - 130	2		20
4,4'-DDD	1.97	2.20		ug/L		112	70 - 130	2		20
4,4'-DDE	1.97	2.25		ug/L		114	70 - 130	0		20
4,4'-DDT	1.97	2.13		ug/L		109	70 - 130	1		20
Acenaphthene	1.97	1.89		ug/L		96	70 - 130	0		20
Acenaphthylene	1.97	1.87		ug/L		95	70 - 130	2		20
Acetochlor	1.97	1.99		ug/L		101	70 - 130	1		20
Alachlor	1.97	1.92		ug/L		98	70 - 130	0		20
alpha-BHC	1.97	1.97		ug/L		100	70 - 130	2		20
alpha-Chlordane	1.97	2.32		ug/L		118	70 - 130	0		20
Anthracene	1.97	1.97		ug/L		100	70 - 130	0		20
Atrazine	1.97	2.32		ug/L		118	70 - 130	0		20
Benz(a)anthracene	1.97	2.26		ug/L		115	70 - 130	1		20
Benzo[a]pyrene	1.97	2.07		ug/L		105	70 - 130	1		20
Benzo[b]fluoranthene	1.97	2.28		ug/L		116	70 - 130	1		20
Benzo[g,h,i]perylene	1.97	1.80		ug/L		92	70 - 130	1		20
Benzo[k]fluoranthene	1.97	2.22		ug/L		113	70 - 130	4		20
beta-BHC	1.97	1.97		ug/L		100	70 - 130	2		20
Bis(2-ethylhexyl) phthalate	1.97	1.80		ug/L		91	70 - 130	2		20
Bromacil	1.97	2.19		ug/L		111	70 - 130	2		20
Butachlor	1.97	2.13		ug/L		108	70 - 130	1		20
Butylbenzylphthalate	1.97	2.25		ug/L		114	70 - 130	3		20
Chlorobenzilate	1.97	1.90		ug/L		96	70 - 130	2		20
Chloroneb	1.97	2.08		ug/L		106	70 - 130	0		20
Chlorothalonil (Draconil, Bravo)	1.97	1.92		ug/L		97	70 - 130	1		20
Chlorpyrifos	1.97	2.17		ug/L		110	70 - 130	1		20
Chrysene	1.97	2.10		ug/L		107	70 - 130	1		20
delta-BHC	1.97	1.75		ug/L		89	70 - 130	1		20
Di(2-ethylhexyl)adipate	1.97	2.01		ug/L		102	70 - 130	1		20
Dibenz(a,h)anthracene	1.97	2.24		ug/L		114	70 - 130	1		20
Diclorvos (DDVP)	1.97	2.11		ug/L		107	70 - 130	0		20
Dieldrin	1.97	1.86		ug/L		95	70 - 130	3		20
Diethylphthalate	1.97	2.08		ug/L		106	70 - 130	1		20
Dimethylphthalate	1.97	2.13		ug/L		109	70 - 130	1		20
Di-n-butyl phthalate	3.93	4.08		ug/L		104	70 - 130	2		20
Di-n-octyl phthalate	1.97	1.65		ug/L		84	70 - 130	3		20
Endosulfan I (Alpha)	1.97	1.78		ug/L		91	70 - 130	2		20

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCSD 380-47490/24-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Endosulfan II (Beta)	1.97	1.93		ug/L		98	70 - 130	1	20	
Endosulfan sulfate	1.97	2.15		ug/L		110	70 - 130	3	20	
Endrin	1.97	2.03		ug/L		103	70 - 130	2	20	
Endrin aldehyde	1.97	2.17		ug/L		110	70 - 130	4	20	
EPTC	1.97	2.08		ug/L		106	70 - 130	0	20	
Fluoranthene	1.97	2.18		ug/L		111	70 - 130	0	20	
Fluorene	1.97	2.11		ug/L		107	70 - 130	1	20	
gamma-BHC (Lindane)	1.97	1.93		ug/L		98	70 - 130	2	20	
gamma-Chlordane	1.97	2.24		ug/L		114	70 - 130	1	20	
Heptachlor	1.97	2.06		ug/L		105	70 - 130	2	20	
Heptachlor epoxide (isomer B)	1.97	2.25		ug/L		115	70 - 130	1	20	
Hexachlorobenzene	1.97	2.19		ug/L		111	70 - 130	6	20	
Hexachlorocyclopentadiene	1.97	2.11		ug/L		107	70 - 130	1	20	
Indeno[1,2,3-cd]pyrene	1.97	2.15		ug/L		109	70 - 130	0	20	
Isophorone	1.97	1.94		ug/L		99	70 - 130	1	20	
Malathion	1.97	1.99		ug/L		101	70 - 130	2	20	
Methoxychlor	1.97	2.16		ug/L		110	70 - 130	1	20	
Metolachlor	1.97	2.09		ug/L		106	70 - 130	1	20	
Molinate	1.97	2.19		ug/L		111	70 - 130	3	20	
Naphthalene	1.97	2.00		ug/L		102	70 - 130	0	20	
Parathion	1.97	2.22		ug/L		113	70 - 130	1	20	
Pendimethalin (Penoxaline)	1.97	2.06		ug/L		105	70 - 130	2	20	
Phenanthrene	1.97	1.96		ug/L		100	70 - 130	1	20	
Propachlor	1.97	1.93		ug/L		98	70 - 130	1	20	
Pyrene	1.97	2.23		ug/L		114	70 - 130	1	20	
Simazine	1.97	2.33		ug/L		119	70 - 130	0	20	
Terbacil	1.97	2.37		ug/L		120	70 - 130	2	20	
Terbutylazine	1.97	2.29		ug/L		116	70 - 130	0	20	
Thiobencarb	1.97	1.99		ug/L		101	70 - 130	1	20	
trans-Nonachlor	1.97	2.41		ug/L		123	70 - 130	3	20	
Trifluralin	1.97	1.93		ug/L		98	70 - 130	2	20	
1-Methylnaphthalene	1.97	2.00		ug/L		102	70 - 130	1	20	
2-Methylnaphthalene	1.97	2.04		ug/L		104	70 - 130	1	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	94		70 - 130
Perylene-d12	91		70 - 130
Triphenylphosphate	116		70 - 130

Lab Sample ID: MRL 380-47490/22-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
2,4'-DDD	0.0985	0.128		ug/L		130	50 - 150	
2,4'-DDE	0.0985	0.106		ug/L		108	50 - 150	
2,4'-DDT	0.0985	0.102		ug/L		103	50 - 150	
2,4-Dinitrotoluene	0.0985	0.0933	J	ug/L		95	50 - 150	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MRL 380-47490/22-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	0.0985	0.104		ug/L		106	50 - 150
4,4'-DDD	0.0985	0.105		ug/L		107	50 - 150
4,4'-DDE	0.0985	0.0962	J	ug/L		98	50 - 150
4,4'-DDT	0.0985	0.140		ug/L		142	50 - 150
Acenaphthene	0.0985	0.102		ug/L		104	50 - 150
Acenaphthylene	0.0985	0.0878	J	ug/L		89	50 - 150
Acetochlor	0.0492	0.0413	J	ug/L		84	50 - 150
Alachlor	0.0492	0.0519		ug/L		106	50 - 150
alpha-BHC	0.0985	0.0996		ug/L		101	50 - 150
alpha-Chlordane	0.0246	<0.029		ug/L		109	50 - 150
Anthracene	0.0197	0.0195	J	ug/L		99	50 - 150
Atrazine	0.0492	0.0549		ug/L		112	50 - 150
Benz(a)anthracene	0.0492	0.0538		ug/L		109	50 - 150
Benzo[a]pyrene	0.0197	0.0168	J	ug/L		85	50 - 150
Benzo[b]fluoranthene	0.0197	0.0212		ug/L		108	50 - 150
Benzo[g,h,i]perylene	0.0492	0.0606		ug/L		123	50 - 150
Benzo[k]fluoranthene	0.0197	0.0205		ug/L		104	50 - 150
beta-BHC	0.0985	0.101		ug/L		103	50 - 150
Bis(2-ethylhexyl) phthalate	0.591	0.686		ug/L		116	50 - 150
Bromacil	0.0985	0.144		ug/L		146	50 - 150
Butachlor	0.0492	0.0578		ug/L		117	50 - 150
Butylbenzylphthalate	0.148	0.168	J	ug/L		114	50 - 150
Chlorobenzilate	0.0985	0.117		ug/L		119	50 - 150
Chloroneb	0.0985	0.128		ug/L		130	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0985	0.118		ug/L		120	50 - 150
Chlorpyrifos	0.0492	0.0567		ug/L		115	50 - 150
Chrysene	0.0197	0.0228		ug/L		116	50 - 150
delta-BHC	0.0985	0.0981		ug/L		100	50 - 150
Di(2-ethylhexyl)adipate	0.295	0.385	J	ug/L		130	50 - 150
Dibenz(a,h)anthracene	0.0492	0.0608		ug/L		123	50 - 150
Diclorvos (DDVP)	0.0492	0.0522		ug/L		106	50 - 150
Dieldrin	0.0985	0.0909	J	ug/L		92	50 - 150
Diethylphthalate	0.148	0.192	J	ug/L		130	50 - 150
Dimethylphthalate	0.295	0.312	J	ug/L		106	50 - 150
Di-n-butyl phthalate	0.295	0.427	J	ug/L		145	49 - 243
Di-n-octyl phthalate	0.0985	0.108		ug/L		110	50 - 150
Endosulfan I (Alpha)	0.0985	0.0936	J	ug/L		95	50 - 150
Endosulfan II (Beta)	0.0985	0.123		ug/L		125	50 - 150
Endosulfan sulfate	0.0985	0.0986		ug/L		100	50 - 150
Endrin	0.0985	0.112		ug/L		114	50 - 150
Endrin aldehyde	0.0985	0.0951	J	ug/L		97	50 - 150
EPTC	0.0985	0.0985		ug/L		100	50 - 150
Fluoranthene	0.0492	0.0576	J	ug/L		117	50 - 150
Fluorene	0.0492	0.0550		ug/L		112	50 - 150
gamma-BHC (Lindane)	0.0394	0.0465		ug/L		118	50 - 150
gamma-Chlordane	0.0246	0.0285	J	ug/L		116	50 - 150
Heptachlor	0.0394	0.0455		ug/L		115	50 - 150
Heptachlor epoxide (isomer B)	0.0492	0.0521		ug/L		106	50 - 150
Hexachlorobenzene	0.0492	0.0511		ug/L		104	50 - 150

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MRL 380-47490/22-A
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorocyclopentadiene	0.0492	0.0449	J	ug/L		91	50 - 150
Indeno[1,2,3-cd]pyrene	0.0492	0.0665		ug/L		135	50 - 150
Isophorone	0.0985	0.0949	J	ug/L		96	50 - 150
Malathion	0.0985	0.120		ug/L		122	50 - 150
Methoxychlor	0.0985	0.120		ug/L		122	50 - 150
Metolachlor	0.0492	0.0557		ug/L		113	50 - 150
Molinate	0.0985	0.110		ug/L		111	50 - 150
Naphthalene	0.0985	0.129	J	ug/L		131	50 - 150
Parathion	0.0985	0.136		ug/L		138	50 - 150
Pendimethalin (Penoxaline)	0.0985	0.140		ug/L		142	50 - 150
Phenanthrene	0.0197	0.0255	J	ug/L		130	50 - 150
Propachlor	0.0492	0.0754	^3+	ug/L		153	50 - 150
Pyrene	0.0492	0.0589		ug/L		120	50 - 150
Simazine	0.0492	0.0625		ug/L		127	50 - 150
Terbacil	0.0985	0.111		ug/L		112	50 - 150
Terbutylazine	0.0985	0.113		ug/L		115	50 - 150
Thiobencarb	0.0985	0.114	J	ug/L		115	50 - 150
trans-Nonachlor	0.0246	0.0272	J	ug/L		110	50 - 150
Trifluralin	0.0985	0.125		ug/L		127	50 - 150
1-Methylnaphthalene	0.0985	0.119		ug/L		121	50 - 150
2-Methylnaphthalene	0.0985	0.113		ug/L		115	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	94		70 - 130
Perylene-d12	89		70 - 130
Triphenylphosphate	113		70 - 130

Lab Sample ID: 380-54518-B-6-A MS
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	<0.099		1.96	2.03		ug/L		103	70 - 130
2,4'-DDE	<0.099		1.96	1.94		ug/L		99	70 - 130
2,4'-DDT	<0.099		1.96	2.14		ug/L		109	70 - 130
2,4-Dinitrotoluene	<0.099	F2	1.96	2.46		ug/L		125	70 - 130
2,6-Dinitrotoluene	<0.099	F2	1.96	2.34		ug/L		119	70 - 130
4,4'-DDD	<0.099		1.96	2.17		ug/L		110	70 - 130
4,4'-DDE	<0.099		1.96	2.14		ug/L		109	70 - 130
4,4'-DDT	<0.099		1.96	2.03		ug/L		103	70 - 130
Acenaphthene	<0.099		1.96	1.90		ug/L		97	70 - 130
Acenaphthylene	<0.099		1.96	2.00		ug/L		102	70 - 130
Acetochlor	<0.099		1.96	1.95		ug/L		99	70 - 130
Alachlor	<0.049		1.96	1.96		ug/L		100	70 - 130
alpha-BHC	<0.099		1.96	1.94		ug/L		99	70 - 130
alpha-Chlordane	<0.049		1.96	2.32		ug/L		118	70 - 130
Anthracene	<0.020		1.96	1.68		ug/L		85	70 - 130
Atrazine	<0.049		1.96	2.29		ug/L		116	70 - 130

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 380-54518-B-6-A MS
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Benz(a)anthracene	<0.049		1.96	2.16		ug/L		110	70 - 130
Benzo[a]pyrene	<0.020		1.96	1.95		ug/L		99	70 - 130
Benzo[b]fluoranthene	<0.020		1.96	2.24		ug/L		114	70 - 130
Benzo[g,h,i]perylene	<0.049		1.96	1.76		ug/L		90	70 - 130
Benzo[k]fluoranthene	<0.020		1.96	2.31		ug/L		117	70 - 130
beta-BHC	<0.099		1.96	1.91		ug/L		97	70 - 130
Bis(2-ethylhexyl) phthalate	<0.59		1.96	1.81		ug/L		82	70 - 130
Bromacil	<0.099		1.96	2.25		ug/L		115	70 - 130
Butachlor	<0.049		1.96	2.29		ug/L		117	70 - 130
Butylbenzylphthalate	<0.49		1.96	2.25		ug/L		114	70 - 130
Chlorobenzilate	<0.099		1.96	1.92		ug/L		98	70 - 130
Chloroneb	<0.099		1.96	2.11		ug/L		107	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.099		1.96	1.94		ug/L		99	70 - 130
Chlorpyrifos	<0.049		1.96	2.18		ug/L		111	70 - 130
Chrysene	<0.020		1.96	2.12		ug/L		108	70 - 130
delta-BHC	<0.099		1.96	1.77		ug/L		90	70 - 130
Di(2-ethylhexyl)adipate	<0.59		1.96	1.91		ug/L		93	70 - 130
Dibenz(a,h)anthracene	<0.049		1.96	2.21		ug/L		113	70 - 130
Diclorvos (DDVP)	<0.049		1.96	2.11		ug/L		108	70 - 130
Dieldrin	<0.20		1.96	1.92		ug/L		98	70 - 130
Diethylphthalate	<0.49		1.96	2.07		ug/L		102	70 - 130
Dimethylphthalate	<0.49		1.96	2.20		ug/L		112	70 - 130
Di-n-butyl phthalate	<0.99		3.93	4.10		ug/L		101	70 - 130
Di-n-octyl phthalate	<0.099		1.96	1.69		ug/L		86	70 - 130
Endosulfan I (Alpha)	<0.099		1.96	1.77		ug/L		90	70 - 130
Endosulfan II (Beta)	<0.099		1.96	2.01		ug/L		102	70 - 130
Endosulfan sulfate	<0.099		1.96	2.16		ug/L		110	70 - 130
Endrin	<0.099		1.96	2.10		ug/L		107	70 - 130
Endrin aldehyde	<0.099		1.96	1.74		ug/L		89	70 - 130
EPTC	<0.099		1.96	2.11		ug/L		108	70 - 130
Fluoranthene	<0.099		1.96	2.20		ug/L		112	70 - 130
Fluorene	<0.049		1.96	2.08		ug/L		106	70 - 130
gamma-BHC (Lindane)	<0.039		1.96	1.94		ug/L		99	70 - 130
gamma-Chlordane	<0.049		1.96	2.30		ug/L		117	70 - 130
Heptachlor	<0.039		1.96	2.03		ug/L		103	70 - 130
Heptachlor epoxide (isomer B)	<0.049		1.96	2.26		ug/L		115	70 - 130
Hexachlorobenzene	<0.049		1.96	2.19		ug/L		112	70 - 130
Hexachlorocyclopentadiene	<0.049		1.96	2.08		ug/L		106	70 - 130
Indeno[1,2,3-cd]pyrene	<0.049		1.96	1.97		ug/L		100	70 - 130
Isophorone	<0.49		1.96	1.96		ug/L		100	70 - 130
Malathion	<0.099		1.96	2.04		ug/L		104	70 - 130
Methoxychlor	<0.099		1.96	2.27		ug/L		115	70 - 130
Metolachlor	<0.049		1.96	2.09		ug/L		106	70 - 130
Molinate	<0.099		1.96	2.19		ug/L		111	70 - 130
Naphthalene	<0.30		1.96	1.99		ug/L		100	70 - 130
Parathion	<0.099		1.96	2.35		ug/L		120	70 - 130
Pendimethalin (Penoxaline)	<0.099		1.96	2.20		ug/L		112	70 - 130
Phenanthrene	<0.039		1.96	1.98		ug/L		101	70 - 130
Propachlor	<0.049	^3+	1.96	1.94		ug/L		99	70 - 130

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 380-54518-B-6-A MS
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Pyrene	<0.049		1.96	2.23		ug/L		113	70 - 130
Simazine	<0.049		1.96	2.39		ug/L		122	70 - 130
Terbacil	<0.099		1.96	2.41		ug/L		123	70 - 130
Terbutylazine	<0.099		1.96	2.29		ug/L		116	70 - 130
Thiobencarb	<0.20		1.96	2.03		ug/L		103	70 - 130
trans-Nonachlor	<0.049		1.96	2.40		ug/L		122	70 - 130
Trifluralin	<0.099		1.96	1.95		ug/L		99	70 - 130
1-Methylnaphthalene	<0.099		1.96	2.01		ug/L		102	70 - 130
2-Methylnaphthalene	<0.099		1.96	2.02		ug/L		103	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Nitro-m-xylene	93		70 - 130
Perylene-d12	93		70 - 130
Triphenylphosphate	116		70 - 130

Lab Sample ID: 380-54518-B-6-B MSD
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 47490

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	<0.099		1.95	1.97		ug/L		101	70 - 130	3	20
2,4'-DDE	<0.099		1.95	1.94		ug/L		99	70 - 130	0	20
2,4'-DDT	<0.099		1.95	2.06		ug/L		105	70 - 130	4	20
2,4-Dinitrotoluene	<0.099	F2	1.95	1.73	F2	ug/L		89	70 - 130	35	20
2,6-Dinitrotoluene	<0.099	F2	1.95	1.68	F2	ug/L		86	70 - 130	33	20
4,4'-DDD	<0.099		1.95	2.09		ug/L		107	70 - 130	4	20
4,4'-DDE	<0.099		1.95	2.08		ug/L		106	70 - 130	3	20
4,4'-DDT	<0.099		1.95	1.96		ug/L		100	70 - 130	4	20
Acenaphthene	<0.099		1.95	1.87		ug/L		96	70 - 130	2	20
Acenaphthylene	<0.099		1.95	1.92		ug/L		98	70 - 130	4	20
Acetochlor	<0.099		1.95	1.89		ug/L		97	70 - 130	3	20
Alachlor	<0.049		1.95	1.86		ug/L		95	70 - 130	5	20
alpha-BHC	<0.099		1.95	1.93		ug/L		99	70 - 130	1	20
alpha-Chlordane	<0.049		1.95	2.26		ug/L		116	70 - 130	3	20
Anthracene	<0.020		1.95	1.60		ug/L		82	70 - 130	5	20
Atrazine	<0.049		1.95	2.19		ug/L		112	70 - 130	4	20
Benz(a)anthracene	<0.049		1.95	2.13		ug/L		109	70 - 130	2	20
Benzo[a]pyrene	<0.020		1.95	2.02		ug/L		104	70 - 130	4	20
Benzo[b]fluoranthene	<0.020		1.95	2.41		ug/L		123	70 - 130	7	20
Benzo[g,h,i]perylene	<0.049		1.95	1.72		ug/L		88	70 - 130	2	20
Benzo[k]fluoranthene	<0.020		1.95	2.43		ug/L		124	70 - 130	5	20
beta-BHC	<0.099		1.95	1.90		ug/L		97	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	<0.59		1.95	1.73		ug/L		79	70 - 130	4	20
Bromacil	<0.099		1.95	1.97		ug/L		101	70 - 130	13	20
Butachlor	<0.049		1.95	2.08		ug/L		107	70 - 130	10	20
Butylbenzylphthalate	<0.49		1.95	2.22		ug/L		114	70 - 130	1	20
Chlorobenzilate	<0.099		1.95	1.86		ug/L		95	70 - 130	3	20
Chloroneb	<0.099		1.95	2.01		ug/L		103	70 - 130	5	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 380-54518-B-6-B MSD

Matrix: Water

Analysis Batch: 47622

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47490

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result			Result	Qualifier				Limits		Limit
Chlorothalonil (Draconil, Bravo)	<0.099		1.95	1.82		ug/L		93	70 - 130	6	20
Chlorpyrifos	<0.049		1.95	2.15		ug/L		110	70 - 130	1	20
Chrysene	<0.020		1.95	2.27		ug/L		116	70 - 130	7	20
delta-BHC	<0.099		1.95	1.70		ug/L		87	70 - 130	4	20
Di(2-ethylhexyl)adipate	<0.59		1.95	1.75		ug/L		85	70 - 130	9	20
Dibenz(a,h)anthracene	<0.049		1.95	2.07		ug/L		106	70 - 130	6	20
Diclorvos (DDVP)	<0.049		1.95	1.87		ug/L		95	70 - 130	12	20
Dieldrin	<0.20		1.95	1.85		ug/L		95	70 - 130	4	20
Diethylphthalate	<0.49		1.95	1.95		ug/L		96	70 - 130	6	20
Dimethylphthalate	<0.49		1.95	1.90		ug/L		97	70 - 130	14	20
Di-n-butyl phthalate	<0.99		3.91	4.07		ug/L		100	70 - 130	1	20
Di-n-octyl phthalate	<0.099		1.95	1.64		ug/L		84	70 - 130	3	20
Endosulfan I (Alpha)	<0.099		1.95	1.75		ug/L		90	70 - 130	1	20
Endosulfan II (Beta)	<0.099		1.95	1.94		ug/L		99	70 - 130	4	20
Endosulfan sulfate	<0.099		1.95	2.13		ug/L		109	70 - 130	2	20
Endrin	<0.099		1.95	1.95		ug/L		100	70 - 130	8	20
Endrin aldehyde	<0.099		1.95	1.91		ug/L		98	70 - 130	9	20
EPTC	<0.099		1.95	2.00		ug/L		103	70 - 130	5	20
Fluoranthene	<0.099		1.95	2.19		ug/L		112	70 - 130	0	20
Fluorene	<0.049		1.95	2.07		ug/L		106	70 - 130	1	20
gamma-BHC (Lindane)	<0.039		1.95	1.88		ug/L		96	70 - 130	4	20
gamma-Chlordane	<0.049		1.95	2.18		ug/L		112	70 - 130	5	20
Heptachlor	<0.039		1.95	1.99		ug/L		102	70 - 130	2	20
Heptachlor epoxide (isomer B)	<0.049		1.95	2.20		ug/L		113	70 - 130	2	20
Hexachlorobenzene	<0.049		1.95	2.24		ug/L		114	70 - 130	2	20
Hexachlorocyclopentadiene	<0.049		1.95	2.07		ug/L		106	70 - 130	1	20
Indeno[1,2,3-cd]pyrene	<0.049		1.95	2.05		ug/L		105	70 - 130	4	20
Isophorone	<0.49		1.95	1.78		ug/L		91	70 - 130	10	20
Malathion	<0.099		1.95	1.94		ug/L		99	70 - 130	5	20
Methoxychlor	<0.099		1.95	2.42		ug/L		124	70 - 130	7	20
Metolachlor	<0.049		1.95	2.02		ug/L		104	70 - 130	3	20
Molinate	<0.099		1.95	2.09		ug/L		107	70 - 130	4	20
Naphthalene	<0.30		1.95	1.93		ug/L		98	70 - 130	3	20
Parathion	<0.099		1.95	2.15		ug/L		110	70 - 130	9	20
Pendimethalin (Penoxaline)	<0.099		1.95	2.07		ug/L		106	70 - 130	6	20
Phenanthrene	<0.039		1.95	1.95		ug/L		100	70 - 130	2	20
Propachlor	<0.049	^3+	1.95	1.85		ug/L		95	70 - 130	5	20
Pyrene	<0.049		1.95	2.22		ug/L		113	70 - 130	1	20
Simazine	<0.049		1.95	2.17		ug/L		111	70 - 130	10	20
Terbacil	<0.099		1.95	2.16		ug/L		111	70 - 130	11	20
Terbutylazine	<0.099		1.95	2.22		ug/L		114	70 - 130	3	20
Thiobencarb	<0.20		1.95	2.01		ug/L		103	70 - 130	1	20
trans-Nonachlor	<0.049		1.95	2.32		ug/L		119	70 - 130	4	20
Trifluralin	<0.099		1.95	1.82		ug/L		93	70 - 130	7	20
1-Methylnaphthalene	<0.099		1.95	1.92		ug/L		98	70 - 130	5	20
2-Methylnaphthalene	<0.099		1.95	1.95		ug/L		100	70 - 130	4	20

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 380-54518-B-6-B MSD
Matrix: Water
Analysis Batch: 47622

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 47490

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

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

Lab Sample ID: MBL 380-47957/4-A
Matrix: Water
Analysis Batch: 48330

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47957

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2,3-Trichloropropane	<0.0040		0.040	ug/L		07/19/23 12:30	07/19/23 17:10	1
1,2-D bromo-3-Chloropropane	<0.0010		0.010	ug/L		07/19/23 12:30	07/19/23 17:10	1
1,2-D bromoethane	<0.0040		0.010	ug/L		07/19/23 12:30	07/19/23 17:10	1

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dibromopropane (Surr)	112		60 - 140	07/19/23 12:30	07/19/23 17:10	1

Lab Sample ID: LCS 380-47957/3-A
Matrix: Water
Analysis Batch: 48330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47957

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,2,3-Trichloropropane	0.200	0.201		ug/L		101	70 - 130
1,2-D bromo-3-Chloropropane	0.200	0.201		ug/L		101	70 - 130
1,2-D bromoethane	0.200	0.213		ug/L		106	70 - 130

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

Lab Sample ID: MRL 380-47957/1-A
Matrix: Water
Analysis Batch: 48330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47957

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,2,3-Trichloropropane	0.0200	0.0193	J	ug/L		97	60 - 140

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

Lab Sample ID: MRL 380-47957/2-A
Matrix: Water
Analysis Batch: 48330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47957

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,2,3-Trichloropropane	0.0500	0.0514		ug/L		103	60 - 140
1,2-D bromo-3-Chloropropane	0.0100	0.0129		ug/L		129	60 - 140
1,2-D bromoethane	0.0100	0.0109		ug/L		109	60 - 140

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QC Sample Results

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

Job ID: 380-54548-1

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

<i>Surrogate</i>	<i>%Recovery</i>	<i>MRL MRL Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	115		60 - 140

Lab Sample ID: 380-54369-B-10-A MS
Matrix: Water
Analysis Batch: 48330

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47957

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
1,2,3-Trichloropropane	<0.040		1.24	1.28		ug/L		103	65 - 135
1,2-D bromo-3-Chloropropane	<0.010		0.248	0.268		ug/L		108	65 - 135
1,2-D bromoethane	<0.010		0.248	0.305		ug/L		123	65 - 135

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	108		60 - 140

Lab Sample ID: 380-54369-F-11-A DU
Matrix: Water
Analysis Batch: 48330

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 47957

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>DU Result</i>	<i>DU Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>RPD Limit</i>
1,2,3-Trichloropropane	<0.040		<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

<i>Surrogate</i>	<i>%Recovery</i>	<i>DU DU Qualifier</i>	<i>Limits</i>
1,2-Dibromopropane (Surr)	106		60 - 140

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Lab Sample ID: LCS 380-47197/10-A
Matrix: Water
Analysis Batch: 47549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47197

<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>
Aldrin	0.100	0.103		ug/L		103	70 - 130
Dieldrin	0.100	0.0998		ug/L		100	70 - 130
Alachlor	1.00	1.01		ug/L		101	70 - 130
Endrin	0.100	0.100		ug/L		100	70 - 130
Heptachlor	0.100	0.101		ug/L		101	70 - 130
Heptachlor epoxide	0.100	0.101		ug/L		101	70 - 130
gamma-BHC (Lindane)	0.100	0.0980		ug/L		98	70 - 130
Methoxychlor	0.500	0.511		ug/L		102	70 - 130

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCS LCS Qualifier</i>	<i>Limits</i>
Tetrachloro-m-xylene	95		70 - 130

Lab Sample ID: LCS 380-47197/17-A
Matrix: Water
Analysis Batch: 47549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47197

<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>
Toxaphene	2.50	2.72		ug/L		109	70 - 130

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QC Sample Results

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

Job ID: 380-54548-1

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

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

Lab Sample ID: LCS 380-47197/24-A
Matrix: Water
Analysis Batch: 47549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47197

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	0.500	0.486		ug/L		97	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Tetrachloro-m-xylene	105		70 - 130

Lab Sample ID: LCS 380-47197/31-A
Matrix: Water
Analysis Batch: 47549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47197

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	0.500	0.484		ug/L		97	70 - 130
PCB-1260	0.500	0.466		ug/L		93	70 - 130

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

Lab Sample ID: MBL 380-47348/4-A
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47348

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0020		0.010	ug/L		07/14/23 13:00	07/14/23 17:17	1
Dieldrin	<0.0050		0.010	ug/L		07/14/23 13:00	07/14/23 17:17	1
Toxaphene	<0.083		0.50	ug/L		07/14/23 13:00	07/14/23 17:17	1
Alachlor	<0.041		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
Chlordane (n.o.s.)	<0.032		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
Endrin	<0.0050		0.010	ug/L		07/14/23 13:00	07/14/23 17:17	1
Heptachlor	<0.0030		0.010	ug/L		07/14/23 13:00	07/14/23 17:17	1
Heptachlor epoxide	<0.0050		0.010	ug/L		07/14/23 13:00	07/14/23 17:17	1
gamma-BHC (Lindane)	<0.0070		0.010	ug/L		07/14/23 13:00	07/14/23 17:17	1
Methoxychlor	<0.022		0.050	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1016	<0.022		0.070	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1221	<0.079		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1232	<0.085		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1242	<0.072		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1248	<0.023		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1254	<0.035		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1
PCB-1260	<0.033		0.070	ug/L		07/14/23 13:00	07/14/23 17:17	1
Polychlorinated biphenyls, Total	<0.085		0.10	ug/L		07/14/23 13:00	07/14/23 17:17	1

Surrogate	MBL MBL		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
Tetrachloro-m-xylene	111		70 - 130	07/14/23 13:00		07/14/23 17:17		1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MRL 380-47348/2-A
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	0.0100	0.00886	J	ug/L		89	50 - 150
Dieldrin	0.0100	0.0103		ug/L		103	50 - 150
Alachlor	0.100	0.0862	J	ug/L		86	50 - 150
Endrin	0.0100	0.00810	J	ug/L		81	50 - 150
Heptachlor	0.0100	0.0101		ug/L		101	50 - 150
Heptachlor epoxide	0.0100	0.00736	J	ug/L		74	50 - 150
gamma-BHC (Lindane)	0.0100	0.00963	J	ug/L		96	50 - 150
Methoxychlor	0.0500	0.0428	J	ug/L		86	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Tetrachloro-m-xylene	97		70 - 130

Lab Sample ID: MRL 380-47348/3-A
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	0.100	0.0986	J	ug/L		99	50 - 150

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

Lab Sample ID: 380-54465-B-1-A MS
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	<0.0099		0.0201	0.0200		ug/L		100	65 - 135
Dieldrin	<0.0099		0.0201	0.0205		ug/L		102	65 - 135
Alachlor	<0.099		0.201	0.190		ug/L		94	65 - 135
Endrin	<0.0099		0.0201	0.0187		ug/L		93	65 - 135
Heptachlor	<0.0099		0.0201	0.0204		ug/L		101	65 - 135
Heptachlor epoxide	<0.0099		0.0201	0.0182		ug/L		90	65 - 135
gamma-BHC (Lindane)	<0.0099		0.0201	0.0194		ug/L		97	65 - 135
Methoxychlor	<0.050		0.101	0.0941		ug/L		94	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	95		70 - 130

Lab Sample ID: 380-54465-B-2-A MS
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	<0.0099		0.0986	0.0973		ug/L		99	65 - 135
Dieldrin	<0.0099		0.0986	0.0952		ug/L		97	65 - 135
Alachlor	<0.099		0.986	0.933		ug/L		95	65 - 135
Endrin	<0.0099		0.0986	0.0949		ug/L		96	65 - 135

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 380-54465-B-2-A MS
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Heptachlor	<0.0099		0.0986	0.0949		ug/L		96	65 - 135
Heptachlor epoxide	<0.0099		0.0986	0.0960		ug/L		97	65 - 135
gamma-BHC (Lindane)	<0.0099		0.0986	0.0941		ug/L		95	65 - 135
Methoxychlor	<0.049		0.493	0.480		ug/L		97	65 - 135
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	104		70 - 130						

Lab Sample ID: 380-54465-C-1-A MS
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Chlordane (n.o.s.)	<0.099		0.501	0.468		ug/L		93	65 - 135
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	93		70 - 130						

Lab Sample ID: 380-54465-C-2-A MS
Matrix: Water
Analysis Batch: 47654

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47348

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
Chlordane (n.o.s.)	<0.099		0.493	0.480		ug/L		97	65 - 135
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
Tetrachloro-m-xylene	83		70 - 130						

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-47357/4
Matrix: Water
Analysis Batch: 47357

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			07/13/23 12:12	1
Nitrite as N	<0.050		0.050	mg/L			07/13/23 12:12	1

Lab Sample ID: LCS 380-47357/7
Matrix: Water
Analysis Batch: 47357

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				
Nitrate as N	2.50	2.47		mg/L		99	90 - 110
Nitrite as N	1.00	0.898		mg/L		90	90 - 110

QC Sample Results

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

Job ID: 380-54548-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 380-47357/8
Matrix: Water
Analysis Batch: 47357

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	2.46		mg/L		99	90 - 110	0	20
Nitrite as N	1.00	0.897		mg/L		90	90 - 110	0	20

Lab Sample ID: MRL 380-47357/5
Matrix: Water
Analysis Batch: 47357

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	0.0116	J	mg/L		93	50 - 150
Nitrite as N	0.0125	0.0125	J	mg/L		100	50 - 150

Lab Sample ID: MRL 380-47357/6
Matrix: Water
Analysis Batch: 47357

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	0.0461	J	mg/L		92	50 - 150
Nitrite as N	0.0500	0.0494	J	mg/L		99	50 - 150

Lab Sample ID: 380-54527-A-6 MS
Matrix: Water
Analysis Batch: 47357

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	2.0		1.25	3.19		mg/L		92	80 - 120
Nitrite as N	<0.050	F1	0.500	0.348	F1	mg/L		70	80 - 120

Lab Sample ID: 380-54527-A-6 MSD
Matrix: Water
Analysis Batch: 47357

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	2.0		1.25	3.18		mg/L		91	80 - 120	0	20
Nitrite as N	<0.050	F1	0.500	0.346	F1	mg/L		69	80 - 120	1	20

Lab Sample ID: MB 380-47358/4
Matrix: Water
Analysis Batch: 47358

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			07/13/23 12:12	1
Sulfate	<0.25		0.25	mg/L			07/13/23 12:12	1

Lab Sample ID: LCS 380-47358/7
Matrix: Water
Analysis Batch: 47358

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	25.0		mg/L		100	90 - 110
Sulfate	50.0	50.6		mg/L		101	90 - 110

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QC Sample Results

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

Job ID: 380-54548-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 380-47358/8
Matrix: Water
Analysis Batch: 47358

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	25.0		mg/L		100	90 - 110	0	20
Sulfate	50.0	50.5		mg/L		101	90 - 110	0	20

Lab Sample ID: MRL 380-47358/5
Matrix: Water
Analysis Batch: 47358

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	0.129	J	mg/L		104	50 - 150
Sulfate	0.250	0.238	J	mg/L		95	50 - 150

Lab Sample ID: MRL 380-47358/6
Matrix: Water
Analysis Batch: 47358

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	0.468	J	mg/L		94	50 - 150
Sulfate	1.00	0.933		mg/L		93	50 - 150

Lab Sample ID: 380-54527-A-6 MS
Matrix: Water
Analysis Batch: 47358

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	25	F1	12.5	34.9		mg/L		80	80 - 120
Sulfate	65		25.0	88.0		mg/L		94	80 - 120

Lab Sample ID: 380-54527-A-6 MSD
Matrix: Water
Analysis Batch: 47358

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	25	F1	12.5	34.8	F1	mg/L		79	80 - 120	0	20
Sulfate	65		25.0	88.1		mg/L		94	80 - 120	0	20

Lab Sample ID: MB 380-47507/4
Matrix: Water
Analysis Batch: 47507

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			07/14/23 10:45	1
Nitrite as N	<0.050		0.050	mg/L			07/14/23 10:45	1

Lab Sample ID: LCS 380-47507/7
Matrix: Water
Analysis Batch: 47507

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	2.48		mg/L		99	90 - 110
Nitrite as N	1.00	1.02		mg/L		102	90 - 110

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QC Sample Results

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

Job ID: 380-54548-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 380-47507/8
Matrix: Water
Analysis Batch: 47507

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	2.49		mg/L		99	90 - 110	0	20
Nitrite as N	1.00	1.02		mg/L		102	90 - 110	0	20

Lab Sample ID: MRL 380-47507/5
Matrix: Water
Analysis Batch: 47507

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	0.0160	J	mg/L		128	50 - 150
Nitrite as N	0.0125	0.0127	J	mg/L		102	50 - 150

Lab Sample ID: MRL 380-47507/6
Matrix: Water
Analysis Batch: 47507

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	0.0503		mg/L		101	50 - 150
Nitrite as N	0.0500	0.0507		mg/L		101	50 - 150

Lab Sample ID: 380-54695-I-1 MS
Matrix: Water
Analysis Batch: 47507

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	6.2		2.50	8.82		mg/L		106	80 - 120
Nitrite as N	<0.10		1.00	0.950		mg/L		95	80 - 120

Lab Sample ID: 380-54695-I-1 MSD
Matrix: Water
Analysis Batch: 47507

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	6.2		2.50	8.86		mg/L		107	80 - 120	0	20
Nitrite as N	<0.10		1.00	0.956		mg/L		96	80 - 120	1	20

Lab Sample ID: MB 380-48190/4
Matrix: Water
Analysis Batch: 48190

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			07/19/23 13:01	1

Lab Sample ID: LCS 380-48190/5
Matrix: Water
Analysis Batch: 48190

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	96.9		ug/L		97	90 - 110

QC Sample Results

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

Job ID: 380-54548-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 380-48190/6
Matrix: Water
Analysis Batch: 48190

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	97.5		ug/L		98	90 - 110	1	10

Lab Sample ID: MRL 380-48190/3
Matrix: Water
Analysis Batch: 48190

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	4.93	J	ug/L		99	75 - 125

Lab Sample ID: 380-54467-V-1 MS
Matrix: Water
Analysis Batch: 48190

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	110		50.0	152		ug/L		94	80 - 120

Lab Sample ID: 380-54467-V-1 MSD
Matrix: Water
Analysis Batch: 48190

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	110		50.0	153		ug/L		96	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 380-47670/51
Matrix: Water
Analysis Batch: 47670

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			07/17/23 15:10	1
Magnesium	<0.10		0.10	mg/L			07/17/23 15:10	1
Potassium	<1.0		1.0	mg/L			07/17/23 15:10	1
Sodium	<1.0		1.0	mg/L			07/17/23 15:10	1

Lab Sample ID: LCS 380-47670/55
Matrix: Water
Analysis Batch: 47670

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	51.6		mg/L		103	85 - 115
Magnesium	20.0	20.1		mg/L		100	85 - 115
Potassium	20.0	20.2		mg/L		101	85 - 115
Sodium	50.0	50.4		mg/L		101	85 - 115

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCSD 380-47670/56
Matrix: Water
Analysis Batch: 47670

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	51.1		mg/L		102	85 - 115	1	20
Magnesium	20.0	20.0		mg/L		100	85 - 115	1	20
Potassium	20.0	20.1		mg/L		101	85 - 115	0	20
Sodium	50.0	50.1		mg/L		100	85 - 115	1	20

Lab Sample ID: LLCS 380-47670/52
Matrix: Water
Analysis Batch: 47670

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	1.00	1.03		mg/L		103	50 - 150
Magnesium	0.100	0.0921	J	mg/L		92	50 - 150
Potassium	1.00	0.720	J	mg/L		72	50 - 150
Sodium	1.00	1.03		mg/L		103	50 - 150

Lab Sample ID: 380-54527-D-1 MS
Matrix: Water
Analysis Batch: 47670

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	170	F1	50.0	219		mg/L		91	70 - 130
Magnesium	59	F1	20.0	78.9		mg/L		101	70 - 130
Potassium	3.0	F1	20.0	25.8		mg/L		114	70 - 130
Sodium	110	F1	50.0	154		mg/L		94	70 - 130

Lab Sample ID: 380-54527-D-1 MSD
Matrix: Water
Analysis Batch: 47670

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	170	F1	50.0	219		mg/L		90	70 - 130	0	20
Magnesium	59	F1	20.0	77.6		mg/L		95	70 - 130	2	20
Potassium	3.0	F1	20.0	25.9		mg/L		114	70 - 130	0	20
Sodium	110	F1	50.0	152		mg/L		90	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 380-48524/1-A
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Arsenic	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Beryllium	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Cadmium	<0.50		0.50	ug/L		07/24/23 10:16	07/25/23 13:17	1
Chromium	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Copper	<2.0		2.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Lead	<0.50		0.50	ug/L		07/24/23 10:16	07/25/23 13:17	1
Nickel	<5.0		5.0	ug/L		07/24/23 10:16	07/25/23 13:17	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MB 380-48524/1-A
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<5.0		5.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Silver	<0.50		0.50	ug/L		07/24/23 10:16	07/25/23 13:17	1
Thallium	<1.0		1.0	ug/L		07/24/23 10:16	07/25/23 13:17	1
Zinc	<20		20	ug/L		07/24/23 10:16	07/25/23 13:17	1

Lab Sample ID: LCS 380-48524/3-A
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	49.1		ug/L		98	85 - 115
Arsenic	50.0	51.2		ug/L		102	85 - 115
Beryllium	25.0	24.8		ug/L		99	85 - 115
Cadmium	25.0	24.2		ug/L		97	85 - 115
Chromium	50.0	50.7		ug/L		101	85 - 115
Copper	50.0	49.8		ug/L		100	85 - 115
Lead	50.0	49.7		ug/L		99	85 - 115
Nickel	50.0	49.3		ug/L		99	85 - 115
Selenium	50.0	49.9		ug/L		100	85 - 115
Silver	25.0	25.5		ug/L		102	85 - 115
Thallium	50.0	49.6		ug/L		99	85 - 115
Zinc	50.0	48.9		ug/L		98	85 - 115

Lab Sample ID: LCSD 380-48524/4-A
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	50.0	49.5		ug/L		99	85 - 115	1	20
Arsenic	50.0	50.3		ug/L		101	85 - 115	2	20
Beryllium	25.0	24.8		ug/L		99	85 - 115	0	20
Cadmium	25.0	24.4		ug/L		97	85 - 115	1	20
Chromium	50.0	49.6		ug/L		99	85 - 115	2	20
Copper	50.0	48.9		ug/L		98	85 - 115	2	20
Lead	50.0	50.1		ug/L		100	85 - 115	1	20
Nickel	50.0	48.2		ug/L		96	85 - 115	2	20
Selenium	50.0	49.2		ug/L		98	85 - 115	1	20
Silver	25.0	26.0		ug/L		104	85 - 115	2	20
Thallium	50.0	50.0		ug/L		100	85 - 115	1	20
Zinc	50.0	48.1		ug/L		96	85 - 115	2	20

Lab Sample ID: LLCS 380-48524/2-A
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	1.02		ug/L		102	50 - 150
Arsenic	1.00	1.18		ug/L		118	50 - 150
Beryllium	1.00	1.01		ug/L		101	50 - 150

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LLCS 380-48524/2-A
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.500	0.497	J	ug/L		99	50 - 150
Chromium	1.00	0.957	J	ug/L		96	50 - 150
Copper	2.00	1.98	J	ug/L		99	50 - 150
Lead	0.500	0.495	J	ug/L		99	50 - 150
Nickel	5.00	4.95	J	ug/L		99	50 - 150
Selenium	5.00	5.06		ug/L		101	50 - 150
Silver	0.500	0.649		ug/L		130	50 - 150
Thallium	1.00	1.01		ug/L		101	50 - 150
Zinc	20.0	19.9	J	ug/L		99	50 - 150

Lab Sample ID: 380-55582-B-1-B MS
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	<1.0		50.0	48.1		ug/L		95	70 - 130
Arsenic	<1.0		50.0	49.2		ug/L		98	70 - 130
Beryllium	<1.0		25.0	22.9		ug/L		92	70 - 130
Cadmium	<0.50		25.0	22.3		ug/L		89	70 - 130
Chromium	11		50.0	55.4		ug/L		88	70 - 130
Copper	<2.0		50.0	41.3		ug/L		81	70 - 130
Lead	<0.50		50.0	43.5		ug/L		87	70 - 130
Nickel	<5.0		50.0	44.2		ug/L		82	70 - 130
Selenium	<5.0		50.0	50.6		ug/L		97	70 - 130
Silver	<0.50	F1	25.0	14.3	F1	ug/L		57	70 - 130
Thallium	<1.0		50.0	44.2		ug/L		88	70 - 130
Zinc	<20		50.0	49.2		ug/L		84	70 - 130

Lab Sample ID: 380-55582-B-1-C MSD
Matrix: Water
Analysis Batch: 48857

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 48524

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	<1.0		50.0	51.3		ug/L		101	70 - 130	6	20
Arsenic	<1.0		50.0	52.9		ug/L		106	70 - 130	7	20
Beryllium	<1.0		25.0	24.7		ug/L		99	70 - 130	7	20
Cadmium	<0.50		25.0	23.8		ug/L		95	70 - 130	7	20
Chromium	11		50.0	63.3		ug/L		104	70 - 130	13	20
Copper	<2.0		50.0	47.3		ug/L		93	70 - 130	14	20
Lead	<0.50		50.0	46.9		ug/L		94	70 - 130	7	20
Nickel	<5.0		50.0	48.5		ug/L		91	70 - 130	9	20
Selenium	<5.0		50.0	54.3		ug/L		104	70 - 130	7	20
Silver	<0.50	F1	25.0	15.4	F1	ug/L		62	70 - 130	8	20
Thallium	<1.0		50.0	47.3		ug/L		95	70 - 130	7	20
Zinc	<20		50.0	54.4		ug/L		95	70 - 130	10	20

QC Sample Results

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

Job ID: 380-54548-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 810-66340/1-A
Matrix: Water
Analysis Batch: 66400

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66340

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.10		0.10	ug/L		07/20/23 10:27	07/20/23 17:09	1

Lab Sample ID: LCS 810-66340/3-A
Matrix: Water
Analysis Batch: 66400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	0.957		ug/L		96	85 - 115

Lab Sample ID: LLCS 810-66340/2-A
Matrix: Water
Analysis Batch: 66400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66340

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.100	0.0898	J	ug/L		90	50 - 150

Lab Sample ID: 810-69388-A-2-B MS
Matrix: Water
Analysis Batch: 66400

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 66340

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	<0.10		1.00	0.997		ug/L		100	70 - 130

Lab Sample ID: 810-69388-A-2-C MSD
Matrix: Water
Analysis Batch: 66400

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 66340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	<0.10		1.00	0.990		ug/L		99	70 - 130	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 380-47593/1
Matrix: Water
Analysis Batch: 47593

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<2.0		2.0	mg/L			07/14/23 19:20	1
Bicarbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			07/14/23 19:20	1
Carbonate Alkalinity as CaCO3	<2.0		2.0	mg/L			07/14/23 19:20	1

Lab Sample ID: LCS 380-47593/3
Matrix: Water
Analysis Batch: 47593

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	99.1		mg/L		99	90 - 110

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QC Sample Results

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

Job ID: 380-54548-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 380-47593/18
Matrix: Water
Analysis Batch: 47593

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	100	98.6		mg/L		99	90 - 110	0	20

Lab Sample ID: LLCS 380-47593/4
Matrix: Water
Analysis Batch: 47593

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	20.0	19.5		mg/L		97	90 - 110		

Lab Sample ID: MRL 380-47593/2
Matrix: Water
Analysis Batch: 47593

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	2.00	1.81	J	mg/L		91	50 - 150		

Lab Sample ID: 380-54548-1 MS
Matrix: Water
Analysis Batch: 47593

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	61		100	161		mg/L		100	80 - 120		

Lab Sample ID: 380-54548-1 MSD
Matrix: Water
Analysis Batch: 47593

Client Sample ID: MOANALUA WELLS
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	61		100	161		mg/L		100	80 - 120	0	20

Lab Sample ID: 380-54548-1 DU
Matrix: Water
Analysis Batch: 47593

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
A kalinity	61		100	61.4		mg/L				0.2	20
Bicarbonate Alkalinity as CaCO3	61			61.4		mg/L				0.2	20
Carbonate Alkalinity as CaCO3	<2.0			<2.0		mg/L				NC	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 380-47596/2
Matrix: Water
Analysis Batch: 47596

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			07/14/23 19:20	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCS 380-47596/4
Matrix: Water
Analysis Batch: 47596

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	1000	993		umhos/cm		99	90 - 110

Lab Sample ID: LCSD 380-47596/16
Matrix: Water
Analysis Batch: 47596

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	989		umhos/cm		99	90 - 110	0	10

Lab Sample ID: MRL 380-47596/3
Matrix: Water
Analysis Batch: 47596

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	2.00	1.90	J	umhos/cm		95	50 - 150

Lab Sample ID: 380-54548-1 DU
Matrix: Water
Analysis Batch: 47596

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	480		478		umhos/cm		0	20

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

Lab Sample ID: MB 380-47446/1
Matrix: Water
Analysis Batch: 47446

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			07/14/23 17:33	1

Lab Sample ID: HLCS 380-47446/5
Matrix: Water
Analysis Batch: 47446

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	686		mg/L		98	80 - 114

Lab Sample ID: LCS 380-47446/4
Matrix: Water
Analysis Batch: 47446

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	168		mg/L		96	80 - 114

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: MRL 380-47446/2
Matrix: Water
Analysis Batch: 47446

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 380-47446/3
Matrix: Water
Analysis Batch: 47446

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

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

Lab Sample ID: 380-54496-E-3 DU
Matrix: Water
Analysis Batch: 47446

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	440		462		mg/L		4	10

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-47761/6
Matrix: Water
Analysis Batch: 47761

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			07/17/23 15:25	1

Lab Sample ID: LCS 380-47761/8
Matrix: Water
Analysis Batch: 47761

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCSD 380-47761/9
Matrix: Water
Analysis Batch: 47761

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.00	1.02		mg/L		102	90 - 110	0	10

Lab Sample ID: MRL 380-47761/7
Matrix: Water
Analysis Batch: 47761

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	0.0486	J	mg/L		97	50 - 150

QC Sample Results

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

Job ID: 380-54548-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 380-54554-A-1 MS
Matrix: Water
Analysis Batch: 47761

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	0.086		1.00	1.12		mg/L		104	80 - 120

Lab Sample ID: 380-54554-A-1 MSD
Matrix: Water
Analysis Batch: 47761

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	0.086		1.00	1.12		mg/L		104	80 - 120	0	20

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-47598/4
Matrix: Water
Analysis Batch: 47598

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.6			SU			07/14/23 19:20	1

Lab Sample ID: LCS 380-47598/5
Matrix: Water
Analysis Batch: 47598

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 380-47598/17
Matrix: Water
Analysis Batch: 47598

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: 380-54548-1 DU
Matrix: Water
Analysis Batch: 47598

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.0	HF	8.0		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 380-47470/1
Matrix: Water
Analysis Batch: 47470

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			07/14/23 17:28	1

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: LCS 380-47470/4
Matrix: Water
Analysis Batch: 47470

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	0.258		mg/L		103	90 - 110

Lab Sample ID: LCSD 380-47470/26
Matrix: Water
Analysis Batch: 47470

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	0.246		mg/L		98	90 - 110	5	20

Lab Sample ID: MRL 380-47470/17
Matrix: Water
Analysis Batch: 47470

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	0.0490	J	mg/L		98	50 - 150

Lab Sample ID: MRL 380-47470/2
Matrix: Water
Analysis Batch: 47470

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	0.0560		mg/L		112	50 - 150

Lab Sample ID: 380-54321-A-2 MS
Matrix: Water
Analysis Batch: 47470

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.12		0.250	0.379		mg/L		102	80 - 120

Lab Sample ID: 380-54321-A-2 MSD
Matrix: Water
Analysis Batch: 47470

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	0.12		0.250	0.377		mg/L		102	80 - 120	1	20

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

Lab Sample ID: 108337-B1
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 108337-B1
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Chlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Methylphenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Nitroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
2-Nitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
3-Nitroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
4-Chloroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
4-Nitroaniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
4-Nitrophenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Acenaphthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Aniline	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Anthracene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzidine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzoic Acid	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
Biphenyl	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Chrysene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Dibenzofuran	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Fluoranthene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Fluorene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Hexachloroethane	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Naphthalene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1

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QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 108337-B1
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Pentachlorophenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Perylene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Phenanthrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1
Phenol	ND		0.2	0.1	µg/L		07/14/23 00:00	08/24/23 07:29	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		07/14/23 00:00	08/24/23 07:29	1
Pyrene	ND		0.005	0.001	µg/L		07/14/23 00:00	08/24/23 07:29	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	45		30 - 130	07/14/23 00:00	08/24/23 07:29	1
(d10-Acenaphthene)	104		27 - 133	07/14/23 00:00	08/24/23 07:29	1
(d10-Phenanthrene)	101		43 - 129	07/14/23 00:00	08/24/23 07:29	1
(d12-Chrysene)	97		52 - 144	07/14/23 00:00	08/24/23 07:29	1
(d12-Perylene)	102		36 - 161	07/14/23 00:00	08/24/23 07:29	1
(d5-Phenol)	95		0 - 130	07/14/23 00:00	08/24/23 07:29	1
(d8-Naphthalene)	96		25 - 125	07/14/23 00:00	08/24/23 07:29	1

Lab Sample ID: 108337-BS1
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.552		µg/L		110	31 - 128
1-Methylphenanthrene	0.5	0.567		µg/L		113	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.577		µg/L		115	55 - 122
2,4,5-Trichlorophenol	1	0.745		µg/L		75	30 - 130
2,4,6-Trichlorophenol	1	0.796		µg/L		80	30 - 130
2,4-Dichlorophenol	1	0.76		µg/L		76	51 - 117
2,4-Dinitrophenol	1	0.668		µg/L		67	0 - 152
2,6-Dichlorophenol	0.5	0.378		µg/L		76	30 - 130
2,6-Dimethylnaphthalene	0.5	0.576		µg/L		115	48 - 120
2,6-Di-tert-butyl-4-methylphenol	1	1.03		µg/L		103	50 - 150
2,6-Di-tert-butylphenol	1	0.99		µg/L		99	50 - 150
2-Chloronaphthalene	1	0.823		µg/L		82	53 - 130
2-Chlorophenol	1	0.621		µg/L		62	41 - 120
2-Methyl-4,6-dinitrophenol	1	0.791		µg/L		79	0 - 141
2-Methylnaphthalene	1.5	1.65		µg/L		110	47 - 130
2-Methylphenol	1	0.627		µg/L		63	40 - 117
2-Nitroaniline	1	0.723		µg/L		72	69 - 114
2-Nitrophenol	1	0.608		µg/L		61	40 - 117
3+4-Methylphenol	1	0.648		µg/L		65	0 - 130
3-Nitroaniline	1	0.723		µg/L		72	23 - 137
4-Bromophenylphenyl ether	1	0.926		µg/L		93	61 - 132
4-Chloro-3-methylphenol	1	0.666		µg/L		67	51 - 128
4-Chloroaniline	1	0.674		µg/L		67	50 - 150
4-Chlorophenylphenyl ether	1	0.936		µg/L		94	63 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 108337-BS1
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4-Nitroaniline	1	0.717		µg/L		72	10 - 159
4-Nitrophenol	1	0.918		µg/L		92	10 - 164
6-tert-butyl-2,4-dimethylphenol	1	0.938		µg/L		94	50 - 150
Acenaphthene	1.5	1.7		µg/L		113	53 - 131
Acenaphthylene	1.5	1.86		µg/L		124	43 - 140
Aniline	1	0.559		µg/L		56	50 - 150
Anthracene	1.5	1.62		µg/L		108	58 - 135
Benz[a]anthracene	1.5	1.68		µg/L		112	55 - 145
Benzidine	1	0.0169		µg/L		2	0 - 125
Benzo[a]pyrene	1.5	1.69		µg/L		113	51 - 143
Benzo[b]fluoranthene	1.5	1.71		µg/L		114	46 - 165
Benzo[e]pyrene	0.5	0.55		µg/L		110	42 - 152
Benzo[g,h,i]perylene	1.5	1.67		µg/L		111	63 - 133
Benzo[k]fluoranthene	1.5	1.64		µg/L		109	56 - 145
Benzoic Acid	1	0.263		µg/L		26	2 - 145
Benzyl Alcohol	1	0.622		µg/L		62	43 - 148
Biphenyl	0.5	0.563		µg/L		113	56 - 119
Bis(2-Chloroethoxy) methane	1	0.665		µg/L		67	66 - 122
Bis(2-Chloroethyl) ether	1	0.581		µg/L		58	43 - 127
Bis(2-Chloroisopropyl) ether	1	0.746		µg/L		75	49 - 128
Chrysene	1.5	1.54		µg/L		103	56 - 141
Dibenz[a,h]anthracene	1.5	1.8		µg/L		120	55 - 150
Dibenzo[a,l]pyrene	0.5	0.466		µg/L		93	50 - 150
Dibenzofuran	1	0.659		µg/L		66	50 - 150
Dibenzothiophene	0.5	0.549		µg/L		110	46 - 126
Disalicylidenepropanediamine	50	41.5		µg/L		83	50 - 150
Fluoranthene	1.5	1.74		µg/L		116	60 - 146
Fluorene	1.5	1.76		µg/L		117	58 - 131
Hexachloroethane	1	0.808		µg/L		81	27 - 130
Indeno[1,2,3-cd]pyrene	1.5	1.77		µg/L		118	50 - 151
Naphthalene	1.5	1.54		µg/L		103	41 - 126
Nitrobenzene	1	0.633		µg/L		63	54 - 111
N-Nitrosodi-n-propylamine	1	0.679		µg/L		68	61 - 152
N-Nitrosodiphenylamine	1	0.967		µg/L		97	49 - 142
Pentachlorophenol	1	0.656		µg/L		66	36 - 111
Perylene	0.5	0.574		µg/L		115	48 - 141
Phenanthrene	1.5	1.6		µg/L		107	67 - 127
Phenol	1	0.547		µg/L		55	29 - 114
p-tert-Butylphenol	1	1.06		µg/L		106	50 - 150
Pyrene	1.5	1.75		µg/L		117	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(2,4,6-Tribromophenol)	58		30 - 130
(d10-Acenaphthene)	106		27 - 133
(d10-Phenanthrene)	101		43 - 129
(d12-Chrysene)	98		52 - 144
(d12-Perylene)	104		36 - 161
(d5-Phenol)	111		0 - 130

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 108337-BS1
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42020_P

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
(d8-Naphthalene)	99		25 - 125

Lab Sample ID: 108337-BS2
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	
1-Methylnaphthalene	0.5	0.55		µg/L		110	31 - 128	0	30	
1-Methylphenanthrene	0.5	0.564		µg/L		113	66 - 127	0	30	
2,3,5-Trimethylnaphthalene	0.5	0.576		µg/L		115	55 - 122	0	30	
2,4,5-Trichlorophenol	1	0.746		µg/L		75	30 - 130	1	30	
2,4,6-Trichlorophenol	1	0.8		µg/L		80	30 - 130	0	30	
2,4-Dichlorophenol	1	0.758		µg/L		76	51 - 117	0	30	
2,4-Dinitrophenol	1	0.669		µg/L		67	0 - 152	0	30	
2,6-Dichlorophenol	0.5	0.376		µg/L		75	30 - 130	1	30	
2,6-Dimethylnaphthalene	0.5	0.568		µg/L		114	48 - 120	1	30	
2,6-Di-tert-butyl-4-methylphenol	1	1.02		µg/L		102	50 - 150	1	30	
2,6-Di-tert-butylphenol	1	0.972		µg/L		97	50 - 150	2	30	
2-Chloronaphthalene	1	0.814		µg/L		81	53 - 130	1	30	
2-Chlorophenol	1	0.604		µg/L		60	41 - 120	3	30	
2-Methyl-4,6-dinitrophenol	1	0.805		µg/L		81	0 - 141	1	30	
2-Methylnaphthalene	1.5	1.64		µg/L		109	47 - 130	1	30	
2-Methylphenol	1	0.607		µg/L		61	40 - 117	3	30	
2-Nitroaniline	1	0.74		µg/L		74	69 - 114	3	30	
2-Nitrophenol	1	0.614		µg/L		61	40 - 117	0	30	
3+4-Methylphenol	1	0.626		µg/L		63	0 - 130	3	30	
3-Nitroaniline	1	0.726		µg/L		73	23 - 137	1	30	
4-Bromophenylphenyl ether	1	0.918		µg/L		92	61 - 132	1	30	
4-Chloro-3-methylphenol	1	0.668		µg/L		67	51 - 128	0	30	
4-Chloroaniline	1	0.655		µg/L		65	50 - 150	2	30	
4-Chlorophenylphenyl ether	1	0.92		µg/L		92	63 - 130	2	30	
4-Nitroaniline	1	0.731		µg/L		73	10 - 159	1	30	
4-Nitrophenol	1	0.918		µg/L		92	10 - 164	0	30	
6-tert-butyl-2,4-dimethylphenol	1	0.942		µg/L		94	50 - 150	0	30	
Acenaphthene	1.5	1.68		µg/L		112	53 - 131	1	30	
Acenaphthylene	1.5	1.84		µg/L		123	43 - 140	1	30	
Aniline	1	0.523		µg/L		52	50 - 150	7	30	
Anthracene	1.5	1.63		µg/L		109	58 - 135	1	30	
Benz[a]anthracene	1.5	1.71		µg/L		114	55 - 145	2	30	
Benzidine	1	0.0178		µg/L		2	0 - 125	0	30	
Benzo[a]pyrene	1.5	1.73		µg/L		115	51 - 143	2	30	
Benzo[b]fluoranthene	1.5	1.73		µg/L		115	46 - 165	1	30	
Benzo[e]pyrene	0.5	0.558		µg/L		112	42 - 152	2	30	
Benzo[g,h,i]perylene	1.5	1.7		µg/L		113	63 - 133	2	30	
Benzo[k]fluoranthene	1.5	1.67		µg/L		111	56 - 145	2	30	
Benzoic Acid	1	0.225		µg/L		22	2 - 145	17	30	
Benzyl Alcohol	1	0.606		µg/L		61	43 - 148	2	30	
Biphenyl	0.5	0.558		µg/L		112	56 - 119	1	30	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 108337-BS2
Matrix: BlankMatrix
Analysis Batch: O-42020

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-42020_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Bis(2-Chloroethoxy) methane	1	0.66		µg/L		66	66 - 122	2	30	
Bis(2-Chloroethyl) ether	1	0.545		µg/L		55	43 - 127	7	30	
Bis(2-Chloroisopropyl) ether	1	0.697		µg/L		70	49 - 128	7	30	
Chrysene	1.5	1.55		µg/L		103	56 - 141	0	30	
Dibenz[a,h]anthracene	1.5	1.83		µg/L		122	55 - 150	2	30	
Dibenzo[a,l]pyrene	0.5	0.475		µg/L		95	50 - 150	2	30	
Dibenzofuran	1	0.638		µg/L		64	50 - 150	3	30	
Dibenzothiophene	0.5	0.552		µg/L		110	46 - 126	0	30	
Disalicylidenepropanediamine	50	46.9		µg/L		94	50 - 150	12	30	
Fluoranthene	1.5	1.75		µg/L		117	60 - 146	1	30	
Fluorene	1.5	1.74		µg/L		116	58 - 131	1	30	
Hexachloroethane	1	0.771		µg/L		77	27 - 130	5	30	
Indeno[1,2,3-cd]pyrene	1.5	1.79		µg/L		119	50 - 151	1	30	
Naphthalene	1.5	1.51		µg/L		101	41 - 126	2	30	
Nitrobenzene	1	0.625		µg/L		62	54 - 111	2	30	
N-Nitrosodi-n-propylamine	1	0.671		µg/L		67	61 - 152	1	30	
N-Nitrosodiphenylamine	1	0.97		µg/L		97	49 - 142	0	30	
Pentachlorophenol	1	0.675		µg/L		68	36 - 111	3	30	
Perylene	0.5	0.577		µg/L		115	48 - 141	0	30	
Phenanthrene	1.5	1.6		µg/L		107	67 - 127	0	30	
Phenol	1	0.502		µg/L		50	29 - 114	10	30	
p-tert-Butylphenol	1	1.05		µg/L		105	50 - 150	1	30	
Pyrene	1.5	1.75		µg/L		117	54 - 156	0	30	

Surrogate	LCS DUP	LCS DUP	Limits
	%Recovery	Qualifier	
(2,4,6-Tribromophenol)	58		30 - 130
(d10-Acenaphthene)	105		27 - 133
(d10-Phenanthrene)	101		43 - 129
(d12-Chrysene)	99		52 - 144
(d12-Perylene)	106		36 - 161
(d5-Phenol)	85		0 - 130
(d8-Naphthalene)	96		25 - 125

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23MEG004WB
Matrix: WATER
Analysis Batch: 23MEG004W

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
ETHANOL	ND	U	2000		ug/L			07/17/23 11:11	1

Lab Sample ID: 23MEG004WL
Matrix: WATER
Analysis Batch: 23MEG004W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
ETHANOL	10000	9500		ug/L		95	60 - 130	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics (Continued)

Lab Sample ID: 23G106-01M
Matrix: WATER
Analysis Batch: 23MEG004W

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	10000		ug/L		100	60 - 130

Lab Sample ID: 23G106-01S
Matrix: WATER
Analysis Batch: 23MEG004W

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	9870		ug/L		99	60 - 130	2	30

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

Lab Sample ID: 23VG39G08B
Matrix: WATER
Analysis Batch: 23VG39G08

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/17/23 12:33	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								07/17/23 12:33	1

Lab Sample ID: 23VG39G08L
Matrix: WATER
Analysis Batch: 23VG39G08

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.472		mg/L		94	60 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	109		70 - 130				

Lab Sample ID: 23G106-01M
Matrix: WATER
Analysis Batch: 23VG39G08

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		0.5	0.469		mg/L		94	50 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
BROMOFLUOROBENZENE	108		60 - 140						

Lab Sample ID: 23G106-01S
Matrix: WATER
Analysis Batch: 23VG39G08

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		0.5	0.439		mg/L		88	50 - 130	7	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 23G106-01S
Matrix: WATER
Analysis Batch: 23VG39G08

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
BROMOFLUOROBENZENE	102		60 - 140

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

Lab Sample ID: 23DSG024WB
Matrix: WATER
Analysis Batch: 23DSG024W

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			07/21/23 20:09	1
JP5	ND	U	0.05		mg/L			07/21/23 20:09	1
JP8	ND	U	0.05		mg/L			07/21/23 20:09	1
MOTOR OIL	ND	U	0.05		mg/L			07/21/23 20:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					07/21/23 20:09	1
HEXACOSANE					07/21/23 20:09	1

Lab Sample ID: 23DSG024WL
Matrix: WATER
Analysis Batch: 23DSG024W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.5	2.24		mg/L		90	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	68		60 - 130
HEXACOSANE	91		60 - 130

Lab Sample ID: 23J5G024WL
Matrix: WATER
Analysis Batch: 23DSG024W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.5	1.79		mg/L		72	30 - 160

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	75		60 - 130
HEXACOSANE	88		60 - 130

Lab Sample ID: 23J8G024WL
Matrix: WATER
Analysis Batch: 23DSG024W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP8	2.5	1.97		mg/L		79	30 - 160

QC Sample Results

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

Job ID: 380-54548-1

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

Lab Sample ID: 23J8G024WL
Matrix: WATER
Analysis Batch: 23DSG024W

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

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	87		60 - 130
HEXACOSANE	92		60 - 130

Lab Sample ID: 23G106-01M
Matrix: WATER
Analysis Batch: 23DSG024W

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		2.7	2.49		mg/L		92	50 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	69		60 - 130
HEXACOSANE	101		60 - 130

Lab Sample ID: 23G106-01M
Matrix: WATER
Analysis Batch: 23DSG024W

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		2.7	1.98		mg/L		73	30 - 160

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	71		60 - 130
HEXACOSANE	85		60 - 130

Lab Sample ID: 23G106-01S
Matrix: WATER
Analysis Batch: 23DSG024W

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		2.65	2.42		mg/L		91	50 - 130	3	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	77		60 - 130
HEXACOSANE	92		60 - 130

Lab Sample ID: 23G106-01S
Matrix: WATER
Analysis Batch: 23DSG024W

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	1.75		mg/L		64	30 - 160	12	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	63		60 - 130
HEXACOSANE	87		60 - 130

QC Association Summary

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

Job ID: 380-54548-1

GC/MS VOA

Analysis Batch: 47356

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-54548-2	TB: MOANALUA WELLS	Total/NA	Water	524.2	
MB 380-47356/5	Method Blank	Total/NA	Water	524.2	
LCS 380-47356/2	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-47356/3	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-47356/4	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 48583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-54548-2	TB: MOANALUA WELLS	Total/NA	Water	524.2	
MB 380-48583/14	Method Blank	Total/NA	Water	524.2	
LCS 380-48583/12	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-48583/13	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-48583/10	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-48583/11	Lab Control Sample	Total/NA	Water	524.2	

GC/MS Semi VOA

Prep Batch: 47490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	525.2	
MB 380-47490/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-47490/23-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-47490/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-47490/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-54518-B-6-A MS	Matrix Spike	Total/NA	Water	525.2	
380-54518-B-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	

Analysis Batch: 47622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	525.2	47490
MB 380-47490/21-A	Method Blank	Total/NA	Water	525.2	47490
LCS 380-47490/23-A	Lab Control Sample	Total/NA	Water	525.2	47490
LCSD 380-47490/24-A	Lab Control Sample Dup	Total/NA	Water	525.2	47490
MRL 380-47490/22-A	Lab Control Sample	Total/NA	Water	525.2	47490
380-54518-B-6-A MS	Matrix Spike	Total/NA	Water	525.2	47490
380-54518-B-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	47490

GC Semi VOA

Prep Batch: 47197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-47197/10-A	Lab Control Sample	Total/NA	Water	505	
LCS 380-47197/17-A	Lab Control Sample	Total/NA	Water	505	
LCS 380-47197/24-A	Lab Control Sample	Total/NA	Water	505	
LCS 380-47197/31-A	Lab Control Sample	Total/NA	Water	505	

Prep Batch: 47348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	505	
MBL 380-47348/4-A	Method Blank	Total/NA	Water	505	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-54548-1

GC Semi VOA (Continued)

Prep Batch: 47348 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-47348/2-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-47348/3-A	Lab Control Sample	Total/NA	Water	505	
380-54465-B-1-A MS	Matrix Spike	Total/NA	Water	505	
380-54465-B-2-A MS	Matrix Spike	Total/NA	Water	505	
380-54465-C-1-A MS	Matrix Spike	Total/NA	Water	505	
380-54465-C-2-A MS	Matrix Spike	Total/NA	Water	505	

Analysis Batch: 47549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-47197/10-A	Lab Control Sample	Total/NA	Water	505	47197
LCS 380-47197/17-A	Lab Control Sample	Total/NA	Water	505	47197
LCS 380-47197/24-A	Lab Control Sample	Total/NA	Water	505	47197
LCS 380-47197/31-A	Lab Control Sample	Total/NA	Water	505	47197

Analysis Batch: 47654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	505	47348
MBL 380-47348/4-A	Method Blank	Total/NA	Water	505	47348
MRL 380-47348/2-A	Lab Control Sample	Total/NA	Water	505	47348
MRL 380-47348/3-A	Lab Control Sample	Total/NA	Water	505	47348
380-54465-B-1-A MS	Matrix Spike	Total/NA	Water	505	47348
380-54465-B-2-A MS	Matrix Spike	Total/NA	Water	505	47348
380-54465-C-1-A MS	Matrix Spike	Total/NA	Water	505	47348
380-54465-C-2-A MS	Matrix Spike	Total/NA	Water	505	47348

Prep Batch: 47957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	504.1	
380-54548-2	TB: MOANALUA WELLS	Total/NA	Water	504.1	
MBL 380-47957/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-47957/3-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-47957/1-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-47957/2-A	Lab Control Sample	Total/NA	Water	504.1	
380-54369-B-10-A MS	Matrix Spike	Total/NA	Water	504.1	
380-54369-F-11-A DU	Duplicate	Total/NA	Water	504.1	

Analysis Batch: 48330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	504.1	47957
380-54548-2	TB: MOANALUA WELLS	Total/NA	Water	504.1	47957
MBL 380-47957/4-A	Method Blank	Total/NA	Water	504.1	47957
LCS 380-47957/3-A	Lab Control Sample	Total/NA	Water	504.1	47957
MRL 380-47957/1-A	Lab Control Sample	Total/NA	Water	504.1	47957
MRL 380-47957/2-A	Lab Control Sample	Total/NA	Water	504.1	47957
380-54369-B-10-A MS	Matrix Spike	Total/NA	Water	504.1	47957
380-54369-F-11-A DU	Duplicate	Total/NA	Water	504.1	47957

QC Association Summary

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

Job ID: 380-54548-1

HPLC/IC

Analysis Batch: 47357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-47357/4	Method Blank	Total/NA	Water	300.0	
LCS 380-47357/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-47357/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-47357/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-47357/6	Lab Control Sample	Total/NA	Water	300.0	
380-54527-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
380-54527-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 47358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-47358/4	Method Blank	Total/NA	Water	300.0	
LCS 380-47358/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-47358/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-47358/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-47358/6	Lab Control Sample	Total/NA	Water	300.0	
380-54527-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
380-54527-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 47507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-47507/4	Method Blank	Total/NA	Water	300.0	
LCS 380-47507/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-47507/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-47507/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-47507/6	Lab Control Sample	Total/NA	Water	300.0	
380-54695-I-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-54695-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 48190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-48190/4	Method Blank	Total/NA	Water	300.0	
LCS 380-48190/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-48190/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-48190/3	Lab Control Sample	Total/NA	Water	300.0	
380-54467-V-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-54467-V-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Analysis Batch: 47670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	200.7 Rev 4.4	
MB 380-47670/51	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-47670/55	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-47670/56	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-47670/52	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-54527-D-1 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-54527-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-54548-1

Metals

Prep Batch: 48524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total Recoverable	Water	200.8	
MB 380-48524/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-48524/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-48524/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-48524/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-55582-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	
380-55582-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Analysis Batch: 48857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total Recoverable	Water	200.8	48524
MB 380-48524/1-A	Method Blank	Total Recoverable	Water	200.8	48524
LCS 380-48524/3-A	Lab Control Sample	Total Recoverable	Water	200.8	48524
LCSD 380-48524/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	48524
LLCS 380-48524/2-A	Lab Control Sample	Total Recoverable	Water	200.8	48524
380-55582-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	48524
380-55582-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	48524

Prep Batch: 66340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	245.1	
MB 810-66340/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-66340/3-A	Lab Control Sample	Total/NA	Water	245.1	
LLCS 810-66340/2-A	Lab Control Sample	Total/NA	Water	245.1	
810-69388-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	
810-69388-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 66400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	245.1	66340
MB 810-66340/1-A	Method Blank	Total/NA	Water	245.1	66340
LCS 810-66340/3-A	Lab Control Sample	Total/NA	Water	245.1	66340
LLCS 810-66340/2-A	Lab Control Sample	Total/NA	Water	245.1	66340
810-69388-A-2-B MS	Matrix Spike	Total/NA	Water	245.1	66340
810-69388-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	66340

General Chemistry

Analysis Batch: 47446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	SM 2540C	
MB 380-47446/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-47446/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-47446/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-47446/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-47446/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-54496-E-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 47470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	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: 380-54548-1

General Chemistry (Continued)

Analysis Batch: 47470 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-47470/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-47470/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-47470/26	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-47470/17	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-47470/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-54321-A-2 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
380-54321-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 47593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	SM 2320B	
MB 380-47593/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-47593/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-47593/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-47593/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-47593/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-54548-1 MS	MOANALUA WELLS	Total/NA	Water	SM 2320B	
380-54548-1 MSD	MOANALUA WELLS	Total/NA	Water	SM 2320B	
380-54548-1 DU	MOANALUA WELLS	Total/NA	Water	SM 2320B	

Analysis Batch: 47596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	SM 2510B	
MB 380-47596/2	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-47596/4	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-47596/16	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-47596/3	Lab Control Sample	Total/NA	Water	SM 2510B	
380-54548-1 DU	MOANALUA WELLS	Total/NA	Water	SM 2510B	

Analysis Batch: 47598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	SM 4500 H+ B	
MB 380-47598/4	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-47598/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-47598/17	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-54548-1 DU	MOANALUA WELLS	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 47761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	SM 4500 F C	
MB 380-47761/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-47761/8	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-47761/9	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-47761/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-54554-A-1 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-54554-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

QC Association Summary

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

Job ID: 380-54548-1

Subcontract

Analysis Batch: O-42020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	625 Acid/Base/PAH + TICs	O-42020_P
108337-B1	Method Blank	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-42020_P
108337-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-42020_P
108337-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-42020_P

Analysis Batch: 23DSG024W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	8015 LL DRO/MRO/JP5/J P8	
23DSG024WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSG024WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5G024WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8G024WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23G106-01M	Matrix Spike	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23G106-01M	Matrix Spike	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23G106-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23G106-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23MEG004W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	8015 Ethanol	
23MEG004WB	Method Blank	Total/NA	WATER	8015 Ethanol	
23MEG004WL	Lab Control Sample	Total/NA	WATER	8015 Ethanol	
23G106-01M	Matrix Spike	Total/NA	WATER	8015 Ethanol	
23G106-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Ethanol	

Analysis Batch: 23VG39G08

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-54548-1

Subcontract (Continued)

Analysis Batch: 23VG39G08 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-2	TB: MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39G08B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39G08L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23G106-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23G106-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-42020_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-54548-1	MOANALUA WELLS	Total/NA	Water	EPA_625	
108337-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
108337-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
108337-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-54548-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-54548-1

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	47356	Q6AD	EA POM	07/14/23 13:21
Total/NA	Analysis	524.2		1	48583	UKCP	EA POM	07/24/23 21:45
Total/NA	Prep	525.2			47490	N8NE	EA POM	07/16/23 14:45
Total/NA	Analysis	525.2		1	47622	UPAC	EA POM	07/17/23 22:24
Total/NA	Prep	504.1			47957	K9GY	EA POM	07/19/23 12:30 - 07/19/23 14:00 ¹
Total/NA	Analysis	504.1		1	48330	K9GY	EA POM	07/20/23 03:33
Total/NA	Prep	505			47348	K9GY	EA POM	07/14/23 13:00 - 07/14/23 14:15 ¹
Total/NA	Analysis	505		1	47654	ULRL	EA POM	07/15/23 00:24
Total/NA	Analysis	300.0		5	47357	VB9B	EA POM	07/14/23 04:22
Total/NA	Analysis	300.0		5	47358	VB9B	EA POM	07/14/23 04:22
Total/NA	Analysis	300.0		1	48190	UNJR	EA POM	07/20/23 00:34
Total/NA	Analysis	200.7 Rev 4.4		1	47670	J9ZD	EA POM	07/17/23 15:28
Total Recoverable	Prep	200.8			48524	Z45W	EA POM	07/24/23 10:16
Total Recoverable	Analysis	200.8		1	48857	AAE8	EA POM	07/25/23 13:56
Total/NA	Prep	245.1			66340	AC	EA SB	07/20/23 10:27
Total/NA	Analysis	245.1		1	66400	AC	EA SB	07/20/23 18:13
Total/NA	Analysis	SM 2320B		1	47593	D5MQ	EA POM	07/14/23 22:09
Total/NA	Analysis	SM 2510B		1	47596	D5MQ	EA POM	07/14/23 22:09
Total/NA	Analysis	SM 2540C		1	47446	XLG4	EA POM	07/14/23 17:33
Total/NA	Analysis	SM 4500 F C		1	47761	D5MQ	EA POM	07/17/23 16:01
Total/NA	Analysis	SM 4500 H+ B		1	47598	D5MQ	EA POM	07/14/23 22:09
Total/NA	Analysis	SM 4500 S2 D		1	47470	MH2L	EA POM	07/14/23 17:28
Total/NA	Prep	EPA_625		1	O-42020_P			07/14/23 00:00
Total/NA	Analysis	625 Acid/Base/PAH + TICs		1	O-42020	YC		08/24/23 16:35
Total/NA	Analysis	8015 Ethanol		1	23MEG004W	DBaren		07/17/23 11:53
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39G08	SCerva		07/17/23 14:22
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSG024W	SDees		07/21/23 22:20

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-54548-2

Date Collected: 07/12/23 09:30

Matrix: Water

Date Received: 07/13/23 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	47356	Q6AD	EA POM	07/14/23 13:44
Total/NA	Analysis	524.2		1	48583	UKCP	EA POM	07/24/23 22:08
Total/NA	Prep	504.1			47957	K9GY	EA POM	07/19/23 12:30 - 07/19/23 14:00 ¹
Total/NA	Analysis	504.1		1	48330	K9GY	EA POM	07/20/23 04:05
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39G08	SCerva		07/17/23 16:12

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: 380-54548-1

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: 380-54548-1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-24

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

Analysis Method	Prep Method	Matrix	Analyte
505	505	Water	Polychlorinated biphenyls, Total
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	Bromoethane
524.2		Water	Bromomethane (Methyl Bromide)
524.2		Water	Carbon disulfide
524.2		Water	Chloroethane
524.2		Water	Chloromethane (methyl chloride)
524.2		Water	cis-1,3-Dichloropropene
524.2		Water	Dibromomethane
524.2		Water	Dichlorodifluoromethane
524.2		Water	Diisopropyl ether
524.2		Water	Hexachlorobutadiene
524.2		Water	Isopropylbenzene
524.2		Water	m,p-Xylenes
524.2		Water	m-Dichlorobenzene (1,3-DCB)
524.2		Water	Naphthalene
524.2		Water	n-Butylbenzene
524.2		Water	N-Propylbenzene
524.2		Water	o-Chlorotoluene
524.2		Water	o-Xylene
524.2		Water	p-Chlorotoluene
524.2		Water	p-Isopropyltoluene
524.2		Water	sec-Butylbenzene
524.2		Water	tert-Butylbenzene
524.2		Water	Tertiary Butyl Alcohol (TBA)
524.2		Water	trans-1,3-Dichloropropene
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT

Accreditation/Certification Summary

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

Job ID: 380-54548-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

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

Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4'-DDT
525.2	525.2	Water	Acenaphthene
525.2	525.2	Water	Acenaphthylene
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	Anthracene
525.2	525.2	Water	Benz(a)anthracene
525.2	525.2	Water	Benzo[b]fluoranthene
525.2	525.2	Water	Benzo[g,h,]perylene
525.2	525.2	Water	Benzo[k]fluoranthene
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Bromacil
525.2	525.2	Water	Butylbenzylphthalate
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	Chrysene
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Dibenz(a,h)anthracene
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Diethylphthalate
525.2	525.2	Water	Dimethylphthalate
525.2	525.2	Water	Di-n-butyl phthalate
525.2	525.2	Water	Di-n-octyl phthalate
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	Fluoranthene
525.2	525.2	Water	Fluorene
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene

Accreditation/Certification Summary

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

Job ID: 380-54548-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
SM 2320B		Water	Bicarbonate Alkalinity as CaCO ₃
SM 2320B		Water	Carbonate Alkalinity as CaCO ₃
SM 4500 S2 D		Water	Sulfide

Laboratory: Eurofins Eaton Analytical South Bend

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

Authority	Program	Identification Number	Expiration Date
A2LA	ISO/IEC 17025	5794.01	08-08-23
Alabama	State	40700	06-30-24
Alaska	State	IN00035	06-30-24
Arizona	State	AZ0432	07-25-23
Arkansas (DW)	State	EPA IN00035	06-30-23 *
California	State	2920	06-30-24
Colorado	State	IN00035	02-29-24
Connecticut	State	PH-0132	03-31-24
Delaware (DW)	State	IN00035	06-30-24
Florida	NELAP	E87775	06-30-24
Georgia (DW)	State	929	06-30-24
Guam	State	23-011R	07-15-24
Idaho (DW)	State	IN00035	12-31-23
IL Dept. of Public Health (Micro)	State	17767	07-01-24
Illinois	NELAP	200001	08-17-23
Indiana	State	C-71-01	12-31-25
Indiana (Micro)	State	M-76-07	12-31-25
Iowa	State	IA Lab #098	10-31-23
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	06-30-24
Massachusetts	State	M-IN035	06-30-24
MI - RadChem Recognition	State	9926	06-30-24
Michigan	State	9926	06-30-24
Minnesota	NELAP	1989807	12-31-23
Mississippi	State	IN00035	06-30-24
Missouri	State	880	09-30-24
Montana (DW)	State	CERT0026	01-02-24
Nebraska	State	NE-OS-05-04	06-30-24
Nevada	State	IN000352024-01	07-31-23

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

Accreditation/Certification Summary

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

Job ID: 380-54548-1

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 Hampshire	NELAP	2124	11-05-23
New Jersey	NELAP	IN598	06-30-24
New Mexico	State	IN00035	06-30-24
New York	NELAP	11398	04-01-24
North Carolina (DW)	State	18700	07-31-24
North Dakota	State	R-035	09-26-23
Northern Mariana Islands (DW)	State	IN00035	06-30-24
Ohio	State	87775	06-30-24
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	06-30-24
Tennessee	State	TN02973	06-30-24
Texas	NELAP	T104704187-22-16	12-31-23
Texas	TCEQ Water Supply	TX207	06-30-24
USEPA Reg X SDWA	US Federal Programs	IN00035	08-24-24
USEPA UCMR 5	US Federal Programs	IN00035	12-31-25
Utah	NELAP	IN00035	07-31-23
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	08-14-23
Wisconsin (Micro)	State	10121	12-31-23
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: 380-54548-1

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

Protocol References:

EPA = US Environmental Protection Agency

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

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

None = None

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

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: 380-54548-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-54548-1	MOANALUA WELLS	Water	07/12/23 09:30	07/13/23 11:00
380-54548-2	TB: MOANALUA WELLS	Water	07/12/23 09:30	07/13/23 11:00

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

Date: 08-28-2023
 EMAX Batch No.: 23G106

Attn: Jackie Contreras

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

Subject: Laboratory Report
 Project: 380-54548

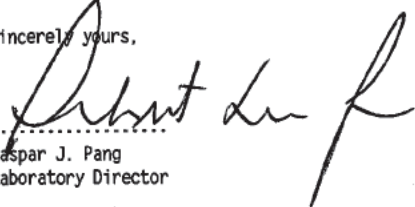
Enclosed is the Laboratory report for samples received on 07/14/23.
 The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-54548-1	G106-01	07/12/23	WATER	TPH GASOLINE TPH ETHANOL
380-54548-2	G106-02	07/12/23	WATER	TPH GASOLINE
380-54548-1MS	G106-01M	07/12/23	WATER	TPH GASOLINE TPH DIESEL TPH JP-5 ETHANOL
380-54548-1MSD	G106-01S	07/12/23	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



ECN <u>236106</u>	Airbill / Tracking Number	ECN <u>236106</u>
Recipient <u>Jacqueline Solis-Ramos</u>		Date <u>07/14/23</u>
		Time <u>10:14</u>

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<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 checked="" type="checkbox"/> Counter Signature	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
<input type="checkbox"/> Safety Issues (if any)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required	

PACKAGING INSPECTION

Container: Cooler Box Other

Condition: Custody Seal Intact Damaged

Condition Correction factor: -0.1

Temperatures: Bubble Pack 28/27 °C

Temperatures: Cooler 1 Cooler 2 Cooler 3 Cooler 4 Cooler 5 Cooler 6 Cooler 7 Cooler 8 Cooler 9 Cooler 10

Thermometer: A-S/N 221852708 B-S/N 221425379

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

LabSampleID	ClientSample Label ID / Information	Code
1	analysis on label: 8015 jet fuel 5	D2
2	analysis on label: 8015 jet fuel 8	D2
	2nd date listed: 6/1/23 * on label	D7

Corrective Action: 1

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: * out of HT if collected 6/1/23

SAMPLE MATRIX IS DRINKING WATER? YES NO

LEGEND:

Code Description-Sample Management

<input type="checkbox"/> Continue to next page.	Code Description-Sample Management
R1 Proceed as indicated in <input checked="" type="checkbox"/> COC <input type="checkbox"/> Label	D13 Out of Holding Time
R2 Refer to attached instruction	D14 Bubble is >6mm
R3 Cancel the analysis	D15 No trip blank in cooler
R4 Use vial with smallest bubble first	D16 Preservation not indicated in
R5 Log-in with latest sampling date and time+1 min	D17 Preservation mismatch COC vs label
R6 Adjust pH as necessary	D18 Insufficient chemical preservative
R7 Filter and preserved as necessary	D19 Insufficient Sample
R8	D20 No filtration info for dissolved analysis
R9	D21 No sample for moisture determination
R10	D22
R11	D23
R12	D24

REPORT ID: 23G106

Sample Labeling: Nandeen Coll-Ramos Jacqueline

Date: 07/14/23

SRF: Jacqueline Coll-Ramos

Date: 07/14/23

PM: NB

Date: 7/18/23

Page 3 of 43

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

380-54548

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

SDG#: 23G106



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-54548

SDG : 23G106

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

A total of two(2) water samples were received on 07/14/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39G08B - 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. VG39G08L/VG39G08C 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 G106-01M/G106-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

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SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/12/23 09:30
Project	: 380-54548	Date Received:	07/14/23
Batch No.	: 23G106	Date Extracted:	07/17/23 14:22
Sample ID	: 380-54548-1	Date Analyzed:	07/17/23 14:22
Lab Samp ID:	G106-01	Dilution Factor:	1
Lab File ID:	EG17008A	Matrix:	WATER
Ext Btch ID:	23VG39G08	% Moisture:	NA
Calib. Ref.:	EG17004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0333	0.0400	83	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 07/12/23 09:30
Project : 380-54548	Date Received: 07/14/23
Batch No. : 23G106	Date Extracted: 07/17/23 16:12
Sample ID : 380-54548-2	Date Analyzed: 07/17/23 16:12
Lab Samp ID: G106-02	Dilution Factor: 1
Lab File ID: EG17011A	Matrix: WATER
Ext Btch ID: 23VG39G08	% Moisture: NA
Calib. Ref.: EG17004A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0332	0.0400	83	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

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 07/17/23 12:33
Project : 380-54548	Date Received: 07/17/23
Batch No. : 23G106	Date Extracted: 07/17/23 12:33
Sample ID : MBLK1W	Date Analyzed: 07/17/23 12:33
Lab Samp ID: VG39G08B	Dilution Factor: 1
Lab File ID: EG17005A	Matrix: WATER
Ext Btch ID: 23VG39G08	% Moisture: NA
Calib. Ref.: EG17004A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0323	0.0400	81	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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-54548
BATCH NO. : 23G106
METHOD : 5030B/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID : VG39G08B	VG39G08L	VG39G08C
LAB FILE ID : EG17005A	EG17006A	EG17007A
DATE PREPARED : 07/17/23 12:33	07/17/23 13:09	07/17/23 13:46
DATE ANALYZED : 07/17/23 12:33	07/17/23 13:09	07/17/23 13:46
PREP BATCH : 23VG39G08	23VG39G08	23VG39G08
CALIBRATION REF: EG17004A	EG17004A	EG17004A

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	0.472	94	0.500	0.499	100	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0437	109	0.0400	0.0428	107	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 : 380-54548
BATCH NO. : 23G106
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-54548-1	380-54548-1MS	380-54548-1MSD
LAB SAMPLE ID	: G106-01	G106-01M	G106-01S
LAB FILE ID	: EG17008A	EG17009A	EG17010A
DATE PREPARED	: 07/17/23 14:22	07/17/23 14:59	07/17/23 15:36
DATE ANALYZED	: 07/17/23 14:22	07/17/23 14:59	07/17/23 15:36
PREP BATCH	: 23VG39G08	23VG39G08	23VG39G08
CALIBRATION REF:	EG17004A	EG17004A	EG17004A

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	0.469	94	0.500	0.439	88	7	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0433	108	0.0400	0.0408	102	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-54548

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23G106



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-54548

SDG : 23G106

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 07/14/23 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. DSG024WB - 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. DSG024WL/DSG024WC 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. Diesel was within MS QC limits in 23G106-01M/23G106-01S. 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: 380-54548

SDG : 23G106

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 07/14/23 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. DSG024WB - 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. J5G024WL/J5G024WC 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. JP5 was within MS QC limits in 23G106-01M/23G106-01S. 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: 380-54548

SDG : 23G106

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 07/14/23 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. DSG024WB - 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. J8G024WL/J8G024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

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.

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SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 07/12/23 09:30
Project : 380-54548	Date Received: 07/14/23
Batch No. : 23G106	Date Extracted: 07/20/23 12:30
Sample ID : 380-54548-1	Date Analyzed: 07/21/23 22:20
Lab Samp ID: 23G106-01	Dilution Factor: 1
Lab File ID: LG21016A	Matrix: WATER
Ext Btch ID: 23DSG024W	% Moisture: NA
Calib. Ref.: LG21003A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.027	0.013	
Motor Oil	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.396	0.530	75	60-130
Hexacosane	0.117	0.132	88	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 : 940ml	Final Volume : 5ml
Prepared by : RGalán	Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 07/12/23 09:30
Project : 380-54548	Date Received: 07/14/23
Batch No. : 23G106	Date Extracted: 07/20/23 12:30
Sample ID : 380-54548-1	Date Analyzed: 07/21/23 22:20
Lab Samp ID: 23G106-01	Dilution Factor: 1
Lab File ID: LG21016A	Matrix: WATER
Ext Btch ID: 23DSG024W	% Moisture: NA
Calib. Ref.: LG21004A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.396	0.530	75	60-130
Hexacosane	0.117	0.132	88	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 : 940ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 07/12/23 09:30
Project : 380-54548	Date Received: 07/14/23
Batch No. : 23G106	Date Extracted: 07/20/23 12:30
Sample ID : 380-54548-1	Date Analyzed: 07/21/23 22:20
Lab Samp ID: 23G106-01	Dilution Factor: 1
Lab File ID: LG21016A	Matrix: WATER
Ext Btch ID: 23DSG024W	% Moisture: NA
Calib. Ref.: LG21005A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.053	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.396	0.530	75	60-130
Hexacosane	0.117	0.132	88	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 : 940ml Final Volume : 5ml
 Prepared by : RGalán Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/20/23 12:30
Project	: 380-54548	Date Received:	07/20/23
Batch No.	: 23G106	Date Extracted:	07/20/23 12:30
Sample ID	: MBLK1W	Date Analyzed:	07/21/23 20:09
Lab Samp ID:	DSG024WB	Dilution Factor:	1
Lab File ID:	LG21009A	Matrix:	WATER
Ext Btch ID:	23DSG024W	% Moisture:	NA
Calib. Ref.:	LG21003A	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	0.380	0.500	76	60-130
Hexacosane	0.117	0.125	93	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	: RGalan	Analyzed by	: SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-54548
BATCH NO. : 23G106
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSG024WB	DSG024WL	DSG024WC
LAB FILE ID	: LG21009A	LG21010A	LG21011A
DATE PREPARED	: 07/20/23 12:30	07/20/23 12:30	07/20/23 12:30
DATE ANALYZED	: 07/21/23 20:09	07/21/23 20:27	07/21/23 20:46
PREP BATCH	: 23DSG024W	23DSG024W	23DSG024W
CALIBRATION REF:	LG21003A	LG21003A	LG21003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.24	90	2.50	2.13	85	5	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.341	68	0.500	0.365	73	60-130
Hexacosane	0.125	0.114	91	0.125	0.122	98	60-130

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 : 380-54548
BATCH NO. : 23G106
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-54548-1	380-54548-1MS	380-54548-1MSD
LAB SAMPLE ID	: 23G106-01	23G106-01M	23G106-01S
LAB FILE ID	: LG21016A	LG21017A	LG21018A
DATE PREPARED	: 07/20/23 12:30	07/20/23 12:30	07/20/23 12:30
DATE ANALYZED	: 07/21/23 22:20	07/21/23 22:38	07/21/23 22:57
PREP BATCH	: 23DSG024W	23DSG024W	23DSG024W
CALIBRATION REF:	LG21003A	LG21003A	LG21003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.70	2.49	92	2.65	2.42	91	3	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.540	0.372	69	0.530	0.407	77	60-130
Hexacosane	0.135	0.136	101	0.132	0.122	92	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:	07/20/23 12:30
Project	: 380-54548	Date Received:	07/20/23
Batch No.	: 23G106	Date Extracted:	07/20/23 12:30
Sample ID	: MBLK1W	Date Analyzed:	07/21/23 20:09
Lab Samp ID:	DSG024WB	Dilution Factor:	1
Lab File ID:	LG21009A	Matrix:	WATER
Ext Btch ID:	23DSG024W	% Moisture:	NA
Calib. Ref.:	LG21004A	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	0.380	0.500	76	60-130
Hexacosane	0.117	0.125	93	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 : RGalan

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-54548
BATCH NO. : 23G106
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSG024WB	J5G024WL	J5G024WC
LAB FILE ID	: LG21009A	LG21012A	LG21013A
DATE PREPARED	: 07/20/23 12:30	07/20/23 12:30	07/20/23 12:30
DATE ANALYZED	: 07/21/23 20:09	07/21/23 21:05	07/21/23 21:24
PREP BATCH	: 23DSG024W	23DSG024W	23DSG024W
CALIBRATION REF:	LG21004A	LG21004A	LG21004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	1.79	72	2.50	1.83	73	2	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.376	75	0.500	0.407	81	60-130
Hexacosane	0.125	0.110	88	0.125	0.113	90	60-130

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 : 380-54548
BATCH NO. : 23G106
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-54548-1	380-54548-1MS	380-54548-1MSD
LAB SAMPLE ID	: 23G106-01	23G106-01M	23G106-01S
LAB FILE ID	: LG21016A	LG21019A	LG21020A
DATE PREPARED	: 07/20/23 12:30	07/20/23 12:30	07/20/23 12:30
DATE ANALYZED	: 07/21/23 22:20	07/21/23 23:16	07/21/23 23:34
PREP BATCH	: 23DSG024W	23DSG024W	23DSG024W
CALIBRATION REF:	LG21004A	LG21004A	LG21004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.70	1.98	73	2.72	1.75	64	12	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.540	0.383	71	0.545	0.346	63	60-130
Hexacosane	0.135	0.115	85	0.136	0.118	87	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:	07/20/23 12:30
Project	: 380-54548	Date Received:	07/20/23
Batch No.	: 23G106	Date Extracted:	07/20/23 12:30
Sample ID	: MBLK1W	Date Analyzed:	07/21/23 20:09
Lab Samp ID:	DSG024WB	Dilution Factor:	1
Lab File ID:	LG21009A	Matrix:	WATER
Ext Btch ID:	23DSG024W	% Moisture:	NA
Calib. Ref.:	LG21005A	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	0.380	0.500	76	60-130
Hexacosane	0.117	0.125	93	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 : RGalan

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-54548
BATCH NO. : 23G106
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSG024WB	J8G024WL	J8G024WC
LAB FILE ID	: LG21009A	LG21014A	LG21015A
DATE PREPARED	: 07/20/23 12:30	07/20/23 12:30	07/20/23 12:30
DATE ANALYZED	: 07/21/23 20:09	07/21/23 21:42	07/21/23 22:01
PREP BATCH	: 23DSG024W	23DSG024W	23DSG024W
CALIBRATION REF:	LG21005A	LG21005A	LG21005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	1.97	79	2.50	2.38	95	19	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.433	87	0.500	0.479	96	60-130
Hexacosane	0.125	0.115	92	0.125	0.112	90	60-130

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-54548

METHOD SW8015C
ALCOHOLS BY GC

SDG#: 23G106



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-54548

SDG : 23G106

METHOD SW8015C
ALCOHOLS BY GC

One(1) water sample was received on 07/14/23 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. MEG004WB - 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. MEG004WL/MEG004WC 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 G106-01M/G106-01S. 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:	07/12/23
Project	: 380-54548	Date Received:	07/14/23
Batch No.	: 23G106	Date Extracted:	NA
Sample ID:	380-54548-1	Date Analyzed:	07/17/23 11:53
Lab Samp ID:	G106-01	Dilution Factor:	1
Lab File ID:	TG17007A	Matrix	: WATER
Ext Btch ID:	MEG004W	% Moisture	: NA
Calib. Ref.:	TG17002A	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	: 380-54548	Date Received:	NA
Batch No.	: 23G106	Date Extracted:	NA
Sample ID:	MBLK1W	Date Analyzed:	07/17/23 11:11
Lab Samp ID:	MEG004WB	Dilution Factor:	1
Lab File ID:	TG17004A	Matrix	: WATER
Ext Btch ID:	MEG004W	% Moisture	: NA
Calib. Ref.:	TG17002A	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: 380-54548
BATCH NO.: 23G106
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: MEG004WB MEG004WL MEG004WC
LAB FILE ID: TG17004A TG17005A TG17006A
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA
DATE ANALYZED: 07/17/2311:11 07/17/2311:25 07/17/2311:39 DATE RECEIVED: NA
PREP. BATCH: MEG004W MEG004W MEG004W
CALIB. REF: TG17002A TG17002A TG17002A

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	9500	95	10000	9010	90	5	60-130	30

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-54548
BATCH NO.: 23G106
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: 380-54548-1
LAB SAMP ID: G106-01 G106-01M G106-01S
LAB FILE ID: TG17007A TG17008A TG17009A
DATE EXTRACTED: NA NA NA DATE COLLECTED: 07/12/23
DATE ANALYZED: 07/17/2311:53 07/17/2312:07 07/17/2312:25 DATE RECEIVED: 07/14/23
PREP. BATCH: MEG004W MEG004W MEG004W
CALIB. REF: TG17002A TG17002A TG17002A

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	10000	100	10000	9870	99	2	60-130	30

September 08, 2023

Rachelle Arada
 Eurofins Eaton Analytical
 750 Royal Oaks Drive
 Suite 100
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-54548-1
 Physis Project ID: 1407003-415

Dear Rachelle,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/14/2023. 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,

Rachel Hansen
 714 602-5320
 Extension 203
 rachelhansen@physislabs.com



PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-415

RED-HILL Project # 38001111 Job # 380-54548-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
108339	MOANLUA WELLS	380-54548-1	7/12/2023	9:30	Samplewater	Not Specified

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ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate 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.

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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.

ANALYTICALS

REPORT

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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: 108339-R1	MOANLUA WELLS 380-54548-1	Matrix: Samplewater					Sampled:	12-Jul-23	9:30	Received:	14-Jul-23
(2,4,6-Tr bromophenol)	EPA 625.1	% Recovery	136	1			Total		O-42020	14-Jul-23	24-Aug-23
(d5-Phenol)	EPA 625.1	% Recovery	80	1			Total		O-42020	14-Jul-23	24-Aug-23
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Benzoic Acid	EPA 625.1	µg/L	0.225	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-42020	14-Jul-23	24-Aug-23
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 108339-R1	MOANLUA WELLS 380-54548-1		Matrix: Samplewater				Sampled:	12-Jul-23	9:30	Received:	14-Jul-23
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Dibenzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-42020	14-Jul-23	24-Aug-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 108339-R1	MOANLUA WELLS 380-54548-1	Matrix: Samplewater					Sampled:	12-Jul-23	9:30	Received:	14-Jul-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	97	1			Total		O-42020	14-Jul-23	24-Aug-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	100	1			Total		O-42020	14-Jul-23	24-Aug-23
(d12-Chrysene)	EPA 625.1	% Recovery	96	1			Total		O-42020	14-Jul-23	24-Aug-23
(d12-Perylene)	EPA 625.1	% Recovery	103	1			Total		O-42020	14-Jul-23	24-Aug-23
(d8-Naphthalene)	EPA 625.1	% Recovery	85	1			Total		O-42020	14-Jul-23	24-Aug-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-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-42020	14-Jul-23	24-Aug-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-42020	14-Jul-23	24-Aug-23



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

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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: 108337-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
		Method: EPA 625.1			Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23		
(2,4,6-Tr bromophenol)	Total	45	1				% Recovery	100	45	30 - 130%	PASS	
(d5-Phenol)	Total	95	1				% Recovery	100	95	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: 108337-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23					
(2,4,6-Tr bromophenol)	Total	58	1			% Recovery	100	0	58	30 - 130%	PASS	
(d5-Phenol)	Total	111	1			% Recovery	100	0	111	0 - 130%	PASS	
2,4,5-Trichlorophenol	Total	0.745	1	0.05	0.1	µg/L	1	0	75	30 - 130%	PASS	
2,4,6-Trichlorophenol	Total	0.796	1	0.05	0.1	µg/L	1	0	80	56 - 118%	PASS	
2,4-Dichlorophenol	Total	0.76	1	0.05	0.1	µg/L	1	0	76	51 - 117%	PASS	
2,4-Dinitrophenol	Total	0.668	1	0.1	0.2	µg/L	1	0	67	0 - 152%	PASS	
2,6-Dichlorophenol	Total	0.378	1	0.05	0.1	µg/L	0.5	0	76	30 - 130%	PASS	
2,6-Di-tert-butyl-4-methylphenol	Total	1.03	1	0.05	0.1	µg/L	1	0	103	50 - 150%	PASS	
2,6-Di-tert-butylphenol	Total	0.99	1	0.05	0.1	µg/L	1	0	99	50 - 150%	PASS	
2-Chlorophenol	Total	0.621	1	0.05	0.1	µg/L	1	0	62	41 - 110%	PASS	
2-Methyl-4,6-dinitrophenol	Total	0.791	1	0.1	0.2	µg/L	1	0	79	0 - 141%	PASS	
2-Methylphenol	Total	0.627	1	0.1	0.2	µg/L	1	0	63	40 - 117%	PASS	
2-Nitrophenol	Total	0.608	1	0.1	0.2	µg/L	1	0	61	40 - 117%	PASS	
3+4-Methylphenol	Total	0.648	1	0.1	0.2	µg/L	1	0	65	0 - 130%	PASS	
4-Chloro-3-methylphenol	Total	0.666	1	0.1	0.2	µg/L	1	0	67	51 - 128%	PASS	
4-Nitrophenol	Total	0.918	1	0.1	0.2	µg/L	1	0	92	10 - 164%	PASS	
6-tert-butyl-2,4-dimethylphenol	Total	0.938	1	0.05	0.1	µg/L	1	0	94	50 - 150%	PASS	
Benzoic Acid	Total	0.263	1	0.1	0.2	µg/L	1	0	26	2 - 145%	PASS	
Benzyl Alcohol	Total	0.622	1	0.1	0.2	µg/L	1	0	62	43 - 148%	PASS	
Pentachlorophenol	Total	0.656	1	0.05	0.1	µg/L	1	0	66	36 - 111%	PASS	
Phenol	Total	0.547	1	0.1	0.2	µg/L	1	0	55	29 - 114%	PASS	
p-tert-Butylphenol	Total	1.06	1	0.05	0.1	µg/L	1	0	106	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: 108337-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:				
		Method: EPA 625.1			Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23				
(2,4,6-Tr bromophenol)	Total	58	1			% Recovery	100	0	58	30 - 130%	PASS	0	30	PASS
(d5-Phenol)	Total	85	1			% Recovery	100	0	85	0 - 130%	PASS	27	30	PASS
2,4,5-Trichlorophenol	Total	0.746	1	0.05	0.1	µg/L	1	0	75	30 - 130%	PASS	1	30	PASS
2,4,6-Trichlorophenol	Total	0.8	1	0.05	0.1	µg/L	1	0	80	56 - 118%	PASS	0	30	PASS
2,4-Dichlorophenol	Total	0.758	1	0.05	0.1	µg/L	1	0	76	51 - 117%	PASS	0	30	PASS
2,4-Dinitrophenol	Total	0.669	1	0.1	0.2	µg/L	1	0	67	0 - 152%	PASS	0	30	PASS
2,6-Dichlorophenol	Total	0.376	1	0.05	0.1	µg/L	0.5	0	75	30 - 130%	PASS	1	30	PASS
2,6-Di-tert-butyl-4-methylphenol	Total	1.02	1	0.05	0.1	µg/L	1	0	102	50 - 150%	PASS	1	30	PASS
2,6-Di-tert-butylphenol	Total	0.972	1	0.05	0.1	µg/L	1	0	97	50 - 150%	PASS	2	30	PASS
2-Chlorophenol	Total	0.604	1	0.05	0.1	µg/L	1	0	60	41 - 110%	PASS	3	30	PASS
2-Methyl-4,6-dinitrophenol	Total	0.805	1	0.1	0.2	µg/L	1	0	81	0 - 141%	PASS	1	30	PASS
2-Methylphenol	Total	0.607	1	0.1	0.2	µg/L	1	0	61	40 - 117%	PASS	3	30	PASS
2-Nitrophenol	Total	0.614	1	0.1	0.2	µg/L	1	0	61	40 - 117%	PASS	0	30	PASS
3+4-Methylphenol	Total	0.626	1	0.1	0.2	µg/L	1	0	63	0 - 130%	PASS	3	30	PASS
4-Chloro-3-methylphenol	Total	0.668	1	0.1	0.2	µg/L	1	0	67	51 - 128%	PASS	0	30	PASS
4-Nitrophenol	Total	0.918	1	0.1	0.2	µg/L	1	0	92	10 - 164%	PASS	0	30	PASS
6-tert-butyl-2,4-dimethylphenol	Total	0.942	1	0.05	0.1	µg/L	1	0	94	50 - 150%	PASS	0	30	PASS
Benzoic Acid	Total	0.225	1	0.1	0.2	µg/L	1	0	22	2 - 145%	PASS	17	30	PASS
Benzyl Alcohol	Total	0.606	1	0.1	0.2	µg/L	1	0	61	43 - 148%	PASS	2	30	PASS
Pentachlorophenol	Total	0.675	1	0.05	0.1	µg/L	1	0	68	36 - 111%	PASS	3	30	PASS
Phenol	Total	0.502	1	0.1	0.2	µg/L	1	0	50	29 - 114%	PASS	10	30	PASS
p-tert-Butylphenol	Total	1.05	1	0.05	0.1	µg/L	1	0	105	50 - 150%	PASS	1	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: 108337-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1			Batch ID: O-42020		Prepared: 14-Jul-23		Analyzed: 24-Aug-23		
2-Chloronaphthalene	Total	ND	1	0.05	0.1	µg/L					
2-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
3-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Bromophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Chloroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Chlorophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
Aniline	Total	ND	1	0.05	0.1	µg/L					
Benzidine	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethoxy) methane	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethyl) ether	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroisopropyl) ether	Total	ND	1	0.05	0.1	µg/L					
Dibenzofuran	Total	ND	1	0.05	0.1	µg/L					
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L					
Hexachloroethane	Total	ND	1	0.05	0.1	µg/L					
Nitrobenzene	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodi-n-propylamine	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodiphenylamine	Total	ND	1	0.05	0.1	µg/L					

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 108337-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23					
2-Chloronaphthalene	Total	0.823	1	0.05	0.1	µg/L	1	0	82	53 - 130%	PASS	
2-Nitroaniline	Total	0.723	1	0.05	0.1	µg/L	1	0	72	69 - 114%	PASS	
3-Nitroaniline	Total	0.723	1	0.05	0.1	µg/L	1	0	72	23 - 137%	PASS	
4-Bromophenylphenyl ether	Total	0.926	1	0.05	0.1	µg/L	1	0	93	61 - 132%	PASS	
4-Chloroaniline	Total	0.674	1	0.05	0.1	µg/L	1	0	67	50 - 150%	PASS	
4-Chlorophenylphenyl ether	Total	0.936	1	0.05	0.1	µg/L	1	0	94	63 - 130%	PASS	
4-Nitroaniline	Total	0.717	1	0.05	0.1	µg/L	1	0	72	10 - 159%	PASS	
Aniline	Total	0.559	1	0.05	0.1	µg/L	1	0	56	50 - 150%	PASS	
Benzidine	Total	0.0169	1	0.05	0.1	µg/L	1	0	2	0 - 125%	PASS	
Bis(2-Chloroethoxy) methane	Total	0.665	1	0.05	0.1	µg/L	1	0	67	66 - 122%	PASS	
Bis(2-Chloroethyl) ether	Total	0.581	1	0.05	0.1	µg/L	1	0	58	43 - 127%	PASS	
Bis(2-Chloroisopropyl) ether	Total	0.746	1	0.05	0.1	µg/L	1	0	75	49 - 128%	PASS	
Dibenzofuran	Total	0.659	1	0.05	0.1	µg/L	1	0	66	50 - 150%	PASS	
Disalicylidenepropanediamin	Total	41.5	1	0.05	0.1	µg/L	50	0	83	50 - 150%	PASS	
Hexachloroethane	Total	0.808	1	0.05	0.1	µg/L	1	0	81	27 - 130%	PASS	
Nitrobenzene	Total	0.633	1	0.05	0.1	µg/L	1	0	63	54 - 111%	PASS	
N-Nitrosodi-n-propylamine	Total	0.679	1	0.05	0.1	µg/L	1	0	68	61 - 152%	PASS	
N-Nitrosodiphenylamine	Total	0.967	1	0.05	0.1	µg/L	1	0	97	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: 108337-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:				
		Method: EPA 625.1			Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23				
2-Chloronaphthalene	Total	0.814	1	0.05	0.1	µg/L	1	0	81	53 - 130%	PASS	1	30	PASS
2-Nitroaniline	Total	0.74	1	0.05	0.1	µg/L	1	0	74	69 - 114%	PASS	3	30	PASS
3-Nitroaniline	Total	0.726	1	0.05	0.1	µg/L	1	0	73	23 - 137%	PASS	1	30	PASS
4-Bromophenylphenyl ether	Total	0.918	1	0.05	0.1	µg/L	1	0	92	61 - 132%	PASS	1	30	PASS
4-Chloroaniline	Total	0.655	1	0.05	0.1	µg/L	1	0	65	50 - 150%	PASS	2	30	PASS
4-Chlorophenylphenyl ether	Total	0.92	1	0.05	0.1	µg/L	1	0	92	63 - 130%	PASS	2	30	PASS
4-Nitroaniline	Total	0.731	1	0.05	0.1	µg/L	1	0	73	10 - 159%	PASS	1	30	PASS
Aniline	Total	0.523	1	0.05	0.1	µg/L	1	0	52	50 - 150%	PASS	7	30	PASS
Benzidine	Total	0.0178	1	0.05	0.1	µg/L	1	0	2	0 - 125%	PASS	0	30	PASS
Bis(2-Chloroethoxy) methane	Total	0.66	1	0.05	0.1	µg/L	1	0	66	66 - 122%	PASS	2	30	PASS
Bis(2-Chloroethyl) ether	Total	0.545	1	0.05	0.1	µg/L	1	0	55	43 - 127%	PASS	7	30	PASS
Bis(2-Chloroisopropyl) ether	Total	0.697	1	0.05	0.1	µg/L	1	0	70	49 - 128%	PASS	7	30	PASS
Dibenzofuran	Total	0.638	1	0.05	0.1	µg/L	1	0	64	50 - 150%	PASS	3	30	PASS
Disalicylidenepropanediamin	Total	46.9	1	0.05	0.1	µg/L	50	0	94	50 - 150%	PASS	12	30	PASS
Hexachloroethane	Total	0.771	1	0.05	0.1	µg/L	1	0	77	27 - 130%	PASS	5	30	PASS
Nitrobenzene	Total	0.625	1	0.05	0.1	µg/L	1	0	62	54 - 111%	PASS	2	30	PASS
N-Nitrosodi-n-propylamine	Total	0.671	1	0.05	0.1	µg/L	1	0	67	61 - 152%	PASS	1	30	PASS
N-Nitrosodiphenylamine	Total	0.97	1	0.05	0.1	µg/L	1	0	97	49 - 142%	PASS	0	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: 108337-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
		Method: EPA 625.1			Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23		
(d10-Acenaphthene)	Total	104	1			% Recovery	100	104	27 - 133%	PASS		
(d10-Phenanthrene)	Total	101	1			% Recovery	100	101	43 - 129%	PASS		
(d12-Chrysene)	Total	97	1			% Recovery	100	97	52 - 144%	PASS		
(d12-Perylene)	Total	102	1			% Recovery	100	102	36 - 161%	PASS		
(d8-Naphthalene)	Total	96	1			% Recovery	100	96	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	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							
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 CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 108337-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-42020			Prepared: 14-Jul-23		Analyzed: 24-Aug-23					
(d10-Acenaphthene)	Total	106	1			% Recovery	100	0	106	27 - 133%	PASS	
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	43 - 129%	PASS	
(d12-Chrysene)	Total	98	1			% Recovery	100	0	98	52 - 144%	PASS	
(d12-Perylene)	Total	104	1			% Recovery	100	0	104	36 - 161%	PASS	
(d8-Naphthalene)	Total	99	1			% Recovery	100	0	99	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.567	1	0.001	0.005	µg/L	0.5	0	113	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.577	1	0.001	0.005	µg/L	0.5	0	115	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.576	1	0.001	0.005	µg/L	0.5	0	115	48 - 120%	PASS	
2-Methylnaphthalene	Total	1.65	1	0.001	0.005	µg/L	1.5	0	110	47 - 130%	PASS	
Acenaphthene	Total	1.7	1	0.001	0.005	µg/L	1.5	0	113	53 - 131%	PASS	
Acenaphthylene	Total	1.86	1	0.001	0.005	µg/L	1.5	0	124	43 - 140%	PASS	
Anthracene	Total	1.62	1	0.001	0.005	µg/L	1.5	0	108	58 - 135%	PASS	
Benz[a]anthracene	Total	1.68	1	0.001	0.005	µg/L	1.5	0	112	55 - 145%	PASS	
Benzo[a]pyrene	Total	1.69	1	0.001	0.005	µg/L	1.5	0	113	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	1.71	1	0.001	0.005	µg/L	1.5	0	114	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.55	1	0.001	0.005	µg/L	0.5	0	110	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	1.67	1	0.001	0.005	µg/L	1.5	0	111	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	1.64	1	0.001	0.005	µg/L	1.5	0	109	56 - 145%	PASS	
Biphenyl	Total	0.563	1	0.001	0.005	µg/L	0.5	0	113	56 - 119%	PASS	
Chrysene	Total	1.54	1	0.001	0.005	µg/L	1.5	0	103	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	1.8	1	0.001	0.005	µg/L	1.5	0	120	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	50 - 150%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.549	1	0.001	0.005	µg/L	0.5	0	110	46 - 126%	PASS		
Fluoranthene	Total	1.74	1	0.001	0.005	µg/L	1.5	0	116	60 - 146%	PASS		
Fluorene	Total	1.76	1	0.001	0.005	µg/L	1.5	0	117	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	1.77	1	0.001	0.005	µg/L	1.5	0	118	50 - 151%	PASS		
Naphthalene	Total	1.54	1	0.001	0.005	µg/L	1.5	0	103	41 - 126%	PASS		
Perylene	Total	0.574	1	0.001	0.005	µg/L	0.5	0	115	48 - 141%	PASS		
Phenanthrene	Total	1.6	1	0.001	0.005	µg/L	1.5	0	107	67 - 127%	PASS		
Pyrene	Total	1.75	1	0.001	0.005	µg/L	1.5	0	117	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 108337-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-42020			Prepared: 14-Jul-23			Analyzed: 24-Aug-23			
(d10-Acenaphthene)	Total	105	1			% Recovery	100	0	105	27 - 133%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	43 - 129%	PASS	0	30	PASS
(d12-Chrysene)	Total	99	1			% Recovery	100	0	99	52 - 144%	PASS	1	30	PASS
(d12-Perylene)	Total	106	1			% Recovery	100	0	106	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	96	1			% Recovery	100	0	96	25 - 125%	PASS	3	30	PASS
1-Methylnaphthalene	Total	0.55	1	0.001	0.005	µg/L	0.5	0	110	31 - 128%	PASS	0	30	PASS
1-Methylphenanthrene	Total	0.564	1	0.001	0.005	µg/L	0.5	0	113	66 - 127%	PASS	0	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.576	1	0.001	0.005	µg/L	0.5	0	115	55 - 122%	PASS	0	30	PASS
2,6-Dimethylnaphthalene	Total	0.568	1	0.001	0.005	µg/L	0.5	0	114	48 - 120%	PASS	1	30	PASS
2-Methylnaphthalene	Total	1.64	1	0.001	0.005	µg/L	1.5	0	109	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	1.68	1	0.001	0.005	µg/L	1.5	0	112	53 - 131%	PASS	1	30	PASS
Acenaphthylene	Total	1.84	1	0.001	0.005	µg/L	1.5	0	123	43 - 140%	PASS	1	30	PASS
Anthracene	Total	1.63	1	0.001	0.005	µg/L	1.5	0	109	58 - 135%	PASS	1	30	PASS
Benz[a]anthracene	Total	1.71	1	0.001	0.005	µg/L	1.5	0	114	55 - 145%	PASS	2	30	PASS
Benzo[a]pyrene	Total	1.73	1	0.001	0.005	µg/L	1.5	0	115	51 - 143%	PASS	2	30	PASS
Benzo[b]fluoranthene	Total	1.73	1	0.001	0.005	µg/L	1.5	0	115	46 - 165%	PASS	1	30	PASS
Benzo[e]pyrene	Total	0.558	1	0.001	0.005	µg/L	0.5	0	112	42 - 152%	PASS	2	30	PASS
Benzo[g,h,i]perylene	Total	1.7	1	0.001	0.005	µg/L	1.5	0	113	63 - 133%	PASS	2	30	PASS
Benzo[k]fluoranthene	Total	1.67	1	0.001	0.005	µg/L	1.5	0	111	56 - 145%	PASS	2	30	PASS
Biphenyl	Total	0.558	1	0.001	0.005	µg/L	0.5	0	112	56 - 119%	PASS	1	30	PASS
Chrysene	Total	1.55	1	0.001	0.005	µg/L	1.5	0	103	56 - 141%	PASS	0	30	PASS
Dibenz[a,h]anthracene	Total	1.83	1	0.001	0.005	µg/L	1.5	0	122	55 - 150%	PASS	2	30	PASS
Dibenzo[a,l]pyrene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	50 - 150%	PASS	2	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	46 - 126%	PASS	0	30	PASS
Fluoranthene	Total	1.75	1	0.001	0.005	µg/L	1.5	0	117	60 - 146%	PASS	1	30	PASS
Fluorene	Total	1.74	1	0.001	0.005	µg/L	1.5	0	116	58 - 131%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	1.79	1	0.001	0.005	µg/L	1.5	0	119	50 - 151%	PASS	1	30	PASS
Naphthalene	Total	1.51	1	0.001	0.005	µg/L	1.5	0	101	41 - 126%	PASS	2	30	PASS
Perylene	Total	0.577	1	0.001	0.005	µg/L	0.5	0	115	48 - 141%	PASS	0	30	PASS
Phenanthrene	Total	1.6	1	0.001	0.005	µg/L	1.5	0	107	67 - 127%	PASS	0	30	PASS
Pyrene	Total	1.75	1	0.001	0.005	µg/L	1.5	0	117	54 - 156%	PASS	0	30	PASS

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PHYSICS
TENTATIVELY
IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 108339

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.0588	5.1566	1111	Anthracene-D10-	1719-06-8	96
10.2494	1.0483	226	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1_42020

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
34.0630	6.7389	1111	Anthracene-D10-	1719-06-8	96
10.2496	0.9687	160	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
26.3579	0.6515	107	Diethyl Phthalate	84-66-2	98

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: 1407003-415
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-54548-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: AG
2. Date Received: 7/15/23
3. Time Received: 11:15
4. Client Name: Eurofins
5. Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - i. Start Time: _____
 - ii. End Time: _____
 - iii. Total Mileage: _____
 - iv. Number of Pickups: _____
6. Container Information: (Please put the # of containers or circle none)
 - Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
7. What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
8. Randomly Selected Samples Temperature (°C): 0.9 Used I/R Thermometer # 1

Inspection Info

1. Initials Inspected By: RCH

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes / No
2. All sample containers arrived intact..... Yes / No
3. All samples listed on COC(s) are present..... Yes / No
4. Information on containers consistent with information on COC(s)..... Yes / No
5. Correct containers and volume for all analyses indicated..... Yes / No
6. All samples received within method holding time..... Yes / No
7. Correct preservation used for all analyses indicated..... Yes / No
8. Name of sampler included on COC(s)..... Yes / No

Notes:

Eurofins Eaton Analytical Pomona

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

Chain of Custody Record



Environment Testing

Client Information		Sampler: <u>Bryson Naleksto</u>		Lab PM: Arada, Rachelle		Carrier Tracking No(s):		COC No: 380-21929-1845.1			
Client Contact: Dr. Ron Fenstermacher		Phone: <u>(809) 748-5840</u>		E-Mail: <u>Rachelle.Arada@et.eurofinsus.com</u>		State of Origin:		Page: Page 1 of 2			
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:	
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 804.1_PREC, 805_LL_PREC 2320B, 2510B, SM4500_H+ 200.7, 200.8 2540C, 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						Preservation Codes:	
City: Honolulu		TAT Requested (days):								A - HCL M - Hexane	
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								B - NaOH N - None	
Phone: 808-748-5091(Tel)		PO #: C20525101 exp 05312023								C - Zn Acetate O - AsnA02	
Email: RFENSTEMACHER@hbws.org		WO #:								D - Nitric Acid P - Na2O4S	
Project Name: RED-HILL		Project #: 38001111		E - NaHSO4 Q - Na2SO3							
Site: Hawaii		SSOW#:		F - MeOH R - Na2S2O3							
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, AA=Air)		Other:	
KAAMILO WELLS:										Special Instructions/Not:	
AIEA GULCH WELLS PUMP 2											
AIEA WELLS P (260)											
HALAWA WELLS UNITS 1 & 2											
MOANALUA WELLS		7/12/2023		0930		Gr		Water		Pump 2	
TB: KAAMILO WELLS											
TB: AIEA GULCH WELLS PUMP 2											
TB: AIEA WELLS PUMPS1&2(260)											
TB: HALAWA WELLS UNITS 1 & 2											
TB: MOANALUA WELLS		7/12/2023						Water		380-54548 COC	
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: <u>FED EX 7727 2344 9390</u>					
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment: <u>FED EX 7727 2344 8070</u>				
Relinquished by: [Redacted]		Date/Time: 7/12/2023 1100		Company: HBWS		Received by: EYL E. Kim		Date/Time: 07/13/2023 11:00		Company: EEAP	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>EEA - Frozen (752A) 60°-22 = 5.8</u> <u>48°-0.2 = 4.6</u>							

Eurofins Eaton Analytical Pomona

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

Chain of Custody Record



Environment Testing

Client Information		Sampler: <i>Bryson Nakamoto</i>		Lab PM: Arada, Rachelle		Carrier Tracking No(s):		COC No: 380-21929-1845.2													
Client Contact: Dr. Ron Fenstermacher		Phone: <i>(808) 748-5840</i>		E-Mail: Rachelle.Arada@et.eurofinsus.com		State of Origin:		Page: Page 2 of 2													
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:											
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform HPLC/MSD (Yes or No)</td> <td>SUBCONTRACT - 8015 Ethanol</td> <td>SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs</td> <td>SUBCONTRACT - 625 Base Neutral LL (EAL) Physis</td> <td>SUBCONTRACT - 625 Acid LL (EAL) Physis</td> <td>524.3_SIM_PREC - Low Level TCP/ED/DBCP</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> <td>504.1_PREC - Local Method</td> <td>Total Number of Containers</td> </tr> </table>						Field Filtered Sample (Yes or No)	Perform HPLC/MSD (Yes or No)	SUBCONTRACT - 8015 Ethanol	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	SUBCONTRACT - 625 Base Neutral LL (EAL) Physis	SUBCONTRACT - 625 Acid LL (EAL) Physis	524.3_SIM_PREC - Low Level TCP/ED/DBCP	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	504.1_PREC - Local Method	Total Number of Containers	Preservation Codes:	
Field Filtered Sample (Yes or No)	Perform HPLC/MSD (Yes or No)	SUBCONTRACT - 8015 Ethanol	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs							SUBCONTRACT - 625 Base Neutral LL (EAL) Physis	SUBCONTRACT - 625 Acid LL (EAL) Physis	524.3_SIM_PREC - Low Level TCP/ED/DBCP	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	504.1_PREC - Local Method	Total Number of Containers						
City: Honolulu		TAT Requested (days):								A - HCL		M - Hexane		B - NaOH		N - None					
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								C - Zn Acetate		O - AsNaO2		D - Nitric Acid		P - Na2O4S					
Phone: 808-748-5091(Tel)		PO #: C20525101 exp 05312023								E - NaHSO4		Q - Na2SO3		F - MeOH		R - Na2S2O3					
Email: RFENSTEMACHER@hbws.org		WC #:		G - Amchlor		S - H2SO4		H - Ascorbic Acid		T - TSP Dodecahydrate											
Project Name: RED-HILL		Project #: 38001111		I - Ice		U - Acetone		J - DI Water		V - MCAA											
Site: Hawaii		SSOW#:		K - EDTA		W - pH 4-5		L - EDA		Y - Trizma											
Other:				Z - other (specify)																	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastable, G=Gas, A=Air)		Special Instructions/Note											
KAAMILO WELLS								Water													
AIEA GULCH WELLS PUMP 2								Water													
AIEA WELLS PUMP (200)								Water													
HALAWA WELLS UNITS 1 & 2								Water													
MOANALUA WELLS		7/12/2023		0930		G		Water		3 2 2 3 3 Pump 2											
TB: KAAMILO WELLS								Water													
TB: AIEA GULCH WELLS PUMP 2								Water													
TB: AIEA WELLS PUMPS 1&2(260)								Water													
TB: HALAWA WELLS UNITS 1 & 2								Water													
TB: MOANALUA WELLS		7/12/2023						Water		2 2											
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: <i>FED EX 7727 2344 9390</i>															
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment: <i>FED EX 77272344 8070</i>													
Relinquished by: <i>Bryson Nakamoto</i>		Date/Time: <i>7/12/2023 1100</i>		Company: <i>HBWS</i>		Received by: <i>EYE EKIM</i>		Date/Time: <i>07/13/2023 11:00</i>		Company: <i>EEAP</i>											
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:											
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>EEA - Frozen (752A) 6.0° - 0.2° = 5.8 / 4.8° - 0.2° = 4.6</i>																	

Eurofins Eaton Analytical Pomona

941 Corporate Center Drive
 Pomona, CA 91768-2642
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Chain of Custody Record

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Client Information		Sampler: <u>Bryson Nakamoto</u>	Lab PM: Arada, Racheile	Carrier Tracking No(s):	COC No: 380-21929-1845.1	
Client Contact: Dr. Ron Fenstemacher		Phone: <u>(809) 748-5840</u>	E-Mail: Racheile.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 2	
Company: City & County of Honolulu		PWSID:	Analysis Requested			
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	Field Filtered Sample (Yes or No) <input type="checkbox"/> Field Filtered Sample (Yes or No) <input type="checkbox"/> 804.1_Prec, 505_LL_Prec 2320B, 2510B, SM4500_HH 2607, 200.8 2540C, 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 (JFB) SUBCONTRACT - 8015 Jet Fuel 5 (JFB) 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#:	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 M - Hexans N - None O - AsnA02 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetons V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)			
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=TIERS, AA=AI)	Special Instructions/Notes
KAAMILO WELLS					Water	
AIEA GULCH WELLS PUMP 2					Water	
AIEA WELLS P (260)					Water	
HALAWA WELLS UNITS 1 & 2					Water	
MOANALUA WELLS		7/12/2023	0930	Gr	Water	Pump 2
TB: KAAMILO WELLS					Water	
TB: AIEA GULCH WELLS PUMP 2					Water	
TB: AIEA WELLS PUMPS 1&2(260)					Water	
TB: HALAWA WELLS UNITS 1 & 2					Water	
TB: MOANALUA WELLS		7/12/2023			Water	380-54548 COC
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: <u>FED EX 7727 2344 9390</u>			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment: <u>FED EX 7727 2344 8970</u>		
Relinquished by: <u>Bry Mlt</u>	Date/Time: <u>7/12/2023 11:00</u>	Company: <u>HBWS</u>	Received by: <u>EYL</u>	<u>E. Kim</u>	Date/Time: <u>07/13/2023 11:00</u>	Company: <u>EEAP</u>
Relinquished by:	Date/Time:	Company:	Received by:		Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:		Date/Time:	Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: <u>EEA - Frozen (752A) 6.0 - 0.2 = 5.8</u> <u>48 - 0.2 = 4.6</u>				

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-54548-1

Login Number: 54548
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

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



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-54548-1

Login Number: 54548
List Number: 2
Creator: Spurgeon, Sheri

List Source: Eurofins Eaton Analytical South Bend
List Creation: 07/15/23 11:01 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

