

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

ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/6/2023 5:55:34 PM

JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-43175-1

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 will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

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

Authorization



Generated
6/6/2023 5:55:34 PM

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



Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	6
Detection Summary	8
Client Sample Results	9
Action Limit Summary	18
Surrogate Summary	20
QC Sample Results	25
QC Association Summary	63
Lab Chronicle	70
Certification Summary	72
Method Summary	75
Sample Summary	76
Subcontract Data	77
Chain of Custody	151
Receipt Checklists	156

Definitions/Glossary

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

Job ID: 380-43175-1

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
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

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

GC Semi VOA

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

HPLC/IC

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

Metals

Qualifier	Qualifier Description
^2	Cal bration Blank (ICB and/or CCB) is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

Euofins Eaton Analytical Pomona

Definitions/Glossary

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

Job ID: 380-43175-1

Glossary (Continued)

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

EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-43175-1

Job ID: 380-43175-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-43175-1

Comments

No additional comments.

Receipt

The samples were received on 4/11/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA

Method 524.2: The method reporting limit check (MRL) for analytical batch 380-36882 recovered outside control limits for the following analytes: m,p-Xylenes. These analytes were biased high in the MRL and were not detected in the associated samples; therefore, the data have been reported.

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

GC/MS Semi VOA

Method 525.2 LL: The low level laboratory control sample (LLCS) for preparation batch 810-56418 and analytical batch 810-56545 recovered outside control limits (50-150%) for the following analytes: Butachlor @ 162%, Chlorobenzilate @ 158%, Chloroneb @ 172%, Di(2-ethylhexyl)adipate @ 170%, Diethylphthalate @ 190%, Dimethylphthalate @ 151%, and Di-n-butyl phthalate @ 1057%. These analytes were biased high in the LLCS and were not detected in the associated samples; therefore, the data have been reported.

Method 525.2 LL: The low level laboratory control sample (LLCS) for preparation batch 810-56418 and analytical batch 810-56545 recovered outside control limits (50-150%) for the following analytes: Di (2-ethylhexyl)phthalate @ 2417%, Butylbenzylphthalate @ 276%, Di-n-octyl phthalate @ 222%, Isophorone @ 177%, Malathion @ 172%, Pendimethalin @ 235%, and Terbacil @ 207%. These results are estimates. They are less than the respective RL's and greater than MDL's. These analytes were biased high in the LLCS and were not detected in the associated samples; therefore, the data have been reported.

Method 525.2 LL: The low level laboratory control sample (LLCS) for preparation batch 810-56418 and analytical batch 810-56545 recovered outside control limits (50-150%) for the following analytes: Endosulfan II @ 0%. These analytes were not detected. The spike amount was less than the respective RL's and MDL's. This does not affect results greater than or equal to the RL. Data for this compound was excluded from this report.

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

HPLC/IC

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

GC Semi VOA

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

Metals

Method 200.8: The continuing calibration blank (CCB) for analytical batch 380-37920 contained Silver above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

General Chemistry

Method SM 4500 S2 D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-36773 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method SM 2320B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-36870 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 SM 2320B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-36870 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

Case Narrative

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

Job ID: 380-43175-1

Job ID: 380-43175-1 (Continued)

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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.

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

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

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



Detection Summary

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bromide	99		5.0	ug/L	1		300.0	Total/NA
Chloride	86		1.0	mg/L	2		300.0	Total/NA
Nitrate as N	0.38		0.10	mg/L	2		300.0	Total/NA
Sulfate	12		0.50	mg/L	2		300.0	Total/NA
Calcium	22		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	2.1		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	34		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	1.4		1.0	ug/L	1		200.8	Total Recoverable
Copper	9.4		2.0	ug/L	1		200.8	Total Recoverable
A kalinity	53		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	53	B ^2	2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	410		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	240		20	mg/L	1		SM 2540C	Total/NA
pH	7.8	HF		SU	1		SM 4500 H+ B	Total/NA
Benzoic Acid	0.485		0.2	0.1 ug/L	1		625 Acid/Base/PAH + TICs	Total/NA

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	7.2		5.0	ug/L	1		524.2	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	ND		0.50	ug/L			04/18/23 15:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	ND		2.0	ug/L			04/18/23 21:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		04/18/23 21:23	1
4-Bromofluorobenzene (Surr)	109		70 - 130		04/18/23 21:23	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		04/18/23 21:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	ug/L			04/17/23 01:43	1
1,1,1-Trichloroethane	ND		0.50	ug/L			04/17/23 01:43	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			04/17/23 01:43	1
1,1,2-Trichloroethane	ND		0.50	ug/L			04/17/23 01:43	1
1,1-Dichloroethylene	ND		0.50	ug/L			04/17/23 01:43	1
1,1-Dichloroethane	ND		0.50	ug/L			04/17/23 01:43	1
1,1-Dichloropropene	ND		0.50	ug/L			04/17/23 01:43	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			04/17/23 01:43	1
1,2,3-Trichloropropane	ND		0.50	ug/L			04/17/23 01:43	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			04/17/23 01:43	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			04/17/23 01:43	1
1,2-Dichloroethane	ND		0.50	ug/L			04/17/23 01:43	1
1,2-Dichloropropane	ND		0.50	ug/L			04/17/23 01:43	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			04/17/23 01:43	1
1,3-Dichloropropane	ND		0.50	ug/L			04/17/23 01:43	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			04/17/23 01:43	1
2,2-Dichloropropane	ND		0.50	ug/L			04/17/23 01:43	1
2-Butanone (MEK)	ND		5.0	ug/L			04/17/23 01:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			04/17/23 01:43	1
Acetone	ND		500	ug/L			04/17/23 01:43	1
Benzene	ND		0.50	ug/L			04/17/23 01:43	1
Bromobenzene	ND		0.50	ug/L			04/17/23 01:43	1
Bromochloromethane	ND		0.50	ug/L			04/17/23 01:43	1
Bromodichloromethane	ND		0.50	ug/L			04/17/23 01:43	1
Bromoethane	ND		0.50	ug/L			04/17/23 01:43	1
Bromoform	ND		0.50	ug/L			04/17/23 01:43	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			04/17/23 01:43	1
Carbon disulfide	ND		0.50	ug/L			04/17/23 01:43	1
Carbon tetrachloride	ND		0.50	ug/L			04/17/23 01:43	1
Chlorobenzene	ND		0.50	ug/L			04/17/23 01:43	1
Chlorodibromomethane	ND		0.50	ug/L			04/17/23 01:43	1
Chloroethane	ND		0.50	ug/L			04/17/23 01:43	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			04/17/23 01:43	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			04/17/23 01:43	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			04/17/23 01:43	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			04/17/23 01:43	1
Dibromomethane	ND		0.50	ug/L			04/17/23 01:43	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.50	ug/L			04/17/23 01:43	1
Dichloromethane	ND		0.50	ug/L			04/17/23 01:43	1
Diisopropyl ether	ND		3.0	ug/L			04/17/23 01:43	1
Ethylbenzene	ND		0.50	ug/L			04/17/23 01:43	1
Hexachlorobutadiene	ND		0.50	ug/L			04/17/23 01:43	1
Isopropyl benzene	ND		0.50	ug/L			04/17/23 01:43	1
m,p-Xylenes	ND	^3+	0.50	ug/L			04/17/23 01:43	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			04/17/23 01:43	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			04/17/23 01:43	1
Naphthalene	ND		0.50	ug/L			04/17/23 01:43	1
n-Butylbenzene	ND		0.50	ug/L			04/17/23 01:43	1
N-Propylbenzene	ND		0.50	ug/L			04/17/23 01:43	1
o-Chlorotoluene	ND		0.50	ug/L			04/17/23 01:43	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			04/17/23 01:43	1
o-Xylene	ND		0.50	ug/L			04/17/23 01:43	1
p-Chlorotoluene	ND		0.50	ug/L			04/17/23 01:43	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			04/17/23 01:43	1
p-Isopropyltoluene	ND		0.50	ug/L			04/17/23 01:43	1
sec-Butylbenzene	ND		0.50	ug/L			04/17/23 01:43	1
Styrene	ND		0.50	ug/L			04/17/23 01:43	1
Tert-amyl methyl ether	ND		3.0	ug/L			04/17/23 01:43	1
Tert-butyl ethyl ether	ND		3.0	ug/L			04/17/23 01:43	1
tert-Butylbenzene	ND		0.50	ug/L			04/17/23 01:43	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			04/17/23 01:43	1
Toluene	ND		0.50	ug/L			04/17/23 01:43	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			04/17/23 01:43	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			04/17/23 01:43	1
Trichloroethylene (TCE)	ND		0.50	ug/L			04/17/23 01:43	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			04/17/23 01:43	1
Trichlorotrifluoroethane	ND		0.50	ug/L			04/17/23 01:43	1
Vinyl Chloride (VC)	ND		0.30	ug/L			04/17/23 01:43	1
Xylenes, Total	ND		0.50	ug/L			04/17/23 01:43	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	150	T J	ug/L		1.09	N/A		04/17/23 01:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 130		04/17/23 01:43	1
4-Bromofluorobenzene (Surr)	108		70 - 130		04/17/23 01:43	1
Toluene-d8 (Surr)	104		70 - 130		04/17/23 01:43	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Benzo[a]anthracene	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Aldrin	ND		0.010	ug/L		04/24/23 09:11	04/25/23 13:42	1
Benzo[b]fluoranthene	ND		0.020	ug/L		04/24/23 09:11	04/25/23 13:42	1
Benzo[k]fluoranthene	ND		0.020	ug/L		04/24/23 09:11	04/25/23 13:42	1
Dieldrin	ND		0.010	ug/L		04/24/23 09:11	04/25/23 13:42	1
Benzo[a]pyrene	ND		0.020	ug/L		04/24/23 09:11	04/25/23 13:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.010	ug/L		04/24/23 09:11	04/25/23 13:42	1
Benzo[g,h,i]perylene	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Heptachlor	ND		0.010	ug/L		04/24/23 09:11	04/25/23 13:42	1
Butylbenzylphthalate	ND	+	0.51	ug/L		04/24/23 09:11	04/25/23 13:42	1
Heptachlor epoxide	ND		0.010	ug/L		04/24/23 09:11	04/25/23 13:42	1
Methoxychlor	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
gamma-BHC (Lindane)	ND		0.010	ug/L		04/24/23 09:11	04/25/23 13:42	1
Acenaphthylene	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Atrazine	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Chlorobenzilate	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
trans-Nonachlor	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
alpha-Chlordane	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
gamma-Chlordane	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Butachlor	ND	+	0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Bromacil	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Chlorothalonil	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Chlorpyrifos	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
4,4'-DDD	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
4,4'-DDT	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Di-n-butyl phthalate	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Dichlorvos	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Diethylphthalate	ND	+	0.51	ug/L		04/24/23 09:11	04/25/23 13:42	1
Di(2-ethylhexyl)adipate	ND	+	0.61	ug/L		04/24/23 09:11	04/25/23 13:42	1
Di (2-ethylhexyl)phthalate	ND	+	0.61	ug/L		04/24/23 09:11	04/25/23 13:42	1
Dimethylphthalate	ND	+	0.51	ug/L		04/24/23 09:11	04/25/23 13:42	1
Endosulfan I	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Endosulfan sulfate	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Endrin aldehyde	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Hexachlorobenzene	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
alpha-BHC	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
beta-BHC	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
delta-BHC	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Hexachlorocyclopentadiene	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Indeno[1,2,3-cd]pyrene	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Isophorone	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Metolachlor	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Molinate	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Propachlor	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Simazine	ND		0.051	ug/L		04/24/23 09:11	04/25/23 13:42	1
Terbacil	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Trifluralin	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Chloroneb	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Fluoranthene	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Thiobencarb	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Parathion	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Di-n-octyl phthalate	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Malathion	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Pendimethalin	ND	+	0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1
Terbutylazine	ND		0.10	ug/L		04/24/23 09:11	04/25/23 13:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane, 2,3,5-trimethyl-	2.3	T J N	ug/L		3.99	62238-11-3	04/24/23 09:11	04/25/23 13:42	1
n-Hexadecanoic acid	0.54	T J N	ug/L		10.42	57-10-3	04/24/23 09:11	04/25/23 13:42	1
Unknown	1.4	T J	ug/L		16.01	N/A	04/24/23 09:11	04/25/23 13:42	1
9-Octadecenamide, (Z)-	1.1	T J N	ug/L		16.66	301-02-0	04/24/23 09:11	04/25/23 13:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene (Surr)	100		70 - 130	04/24/23 09:11	04/25/23 13:42	1
Perylene-d12 (Surr)	97		70 - 130	04/24/23 09:11	04/25/23 13:42	1
Triphenylphosphate (Surr)	117		70 - 130	04/24/23 09:11	04/25/23 13:42	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.040	ug/L		04/14/23 13:00	04/14/23 21:37	1
1,2-D bromo-3-Chloropropane	ND		0.010	ug/L		04/14/23 13:00	04/14/23 21:37	1
1,2-D bromoethane	ND		0.010	ug/L		04/14/23 13:00	04/14/23 21:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	106		60 - 140	04/14/23 13:00	04/14/23 21:37	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.080	ug/L		04/20/23 09:20	04/20/23 23:53	1
PCB-1221	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
PCB-1232	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
PCB-1242	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
PCB-1248	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
PCB-1254	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
PCB-1260	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
Chlordane (technical)	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
Toxaphene	ND		0.50	ug/L		04/20/23 09:20	04/20/23 23:53	1
Total PCBs as DCB (Qualitative)	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		04/20/23 09:20	04/20/23 23:53	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	99		5.0	ug/L			04/13/23 08:16	1
Chloride	86		1.0	mg/L			04/11/23 22:09	2
Nitrate as N	0.38		0.10	mg/L			04/11/23 22:09	2
Nitrite as N	ND		0.10	mg/L			04/11/23 22:09	2
Sulfate	12		0.50	mg/L			04/11/23 22:09	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	22		1.0	mg/L			04/13/23 13:18	1
Magnesium	17		0.10	mg/L			04/13/23 13:18	1
Potassium	2.1		1.0	mg/L			04/13/23 13:18	1
Sodium	34		1.0	mg/L			04/13/23 13:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Arsenic	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:30	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Cadmium	ND		0.50	ug/L		04/12/23 14:26	04/14/23 12:30	1
Chromium	1.4		1.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Copper	9.4		2.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Lead	ND		0.50	ug/L		04/12/23 14:26	04/14/23 12:30	1
Nickel	ND		5.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Selenium	ND		5.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Silver	ND	^2	0.50	ug/L		04/24/23 12:31	04/25/23 11:45	1
Thallium	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:30	1
Zinc	ND		20	ug/L		04/12/23 14:26	04/14/23 12:30	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.10	ug/L		04/18/23 15:40	04/18/23 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	53		2.0	mg/L			04/13/23 15:16	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	53	B ^2	2.0	mg/L			04/13/23 15:16	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		2.0	mg/L			04/13/23 15:16	1
Specific Conductance (SM 2510B)	410		2.0	umhos/cm			04/13/23 15:16	1
Total Dissolved Solids (SM 2540C)	240		20	mg/L			04/15/23 00:05	1
Fluoride (SM 4500 F C)	ND		0.050	mg/L			04/13/23 13:54	1
pH (SM 4500 H+ B)	7.8	HF		SU			04/13/23 15:16	1
Sulfide (SM 4500 S2 D)	ND	F1	0.050	mg/L			04/14/23 15:00	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		04/13/23 00:00	05/05/23 05:59	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 05:59	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 05:59	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2-Chlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
2-Methylphenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
2-Nitroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
2-Nitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
3-Nitroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
4-Chloroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
4-Nitroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
4-Nitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 05:59	1
Acenaphthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Acenaphthylene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Aniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Anthracene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benzidine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Benzoic Acid	0.485		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
Biphenyl	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Chrysene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Dibenzofuran	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Dibenzothiophene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 05:59	1
Fluoranthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Fluorene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Hexachloroethane	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Naphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Nitrobenzene	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Pentachlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 14:13	1
Perylene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Phenanthrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Phenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 14:13	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 05:59	1
Pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 05:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	48		31 - 143				04/13/23 00:00	05/11/23 14:13	1
(d10-Acenaphthene)	80		27 - 133				04/13/23 00:00	05/05/23 05:59	1
(d10-Phenanthrene)	74		43 - 129				04/13/23 00:00	05/05/23 05:59	1
(d12-Chrysene)	80		52 - 144				04/13/23 00:00	05/05/23 05:59	1
(d12-Perylene)	70		36 - 161				04/13/23 00:00	05/05/23 05:59	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d5-Phenol)	18		0 - 85	04/13/23 00:00	05/11/23 14:13	1
(d8-Naphthalene)	85		25 - 125	04/13/23 00:00	05/05/23 05:59	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			04/14/23 13:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/13/23 14:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	78		60 - 140		04/13/23 14:35	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			04/14/23 19:16	1
JP5	ND	U	0.053		mg/L			04/14/23 19:16	1
JP8	ND	U	0.053		mg/L			04/14/23 19:16	1
MOTOR OIL	ND	U	0.053		mg/L			04/14/23 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	74		60 - 130		04/14/23 19:16	1
HEXACOSANE	90		60 - 130		04/14/23 19:16	1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

Method: EPA-DW 524.2 - Total Trihalomethanes

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trihalomethanes, Total	ND		0.50	ug/L			04/18/23 15:04	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	ND		2.0	ug/L			04/18/23 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		04/18/23 21:47	1
4-Bromofluorobenzene (Surr)	86		70 - 130		04/18/23 21:47	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 130		04/18/23 21:47	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	ug/L			04/17/23 02:06	1
1,1,1-Trichloroethane	ND		0.50	ug/L			04/17/23 02:06	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			04/17/23 02:06	1
1,1,2-Trichloroethane	ND		0.50	ug/L			04/17/23 02:06	1
1,1-Dichloroethane	ND		0.50	ug/L			04/17/23 02:06	1
1,1-Dichloroethylene	ND		0.50	ug/L			04/17/23 02:06	1
1,1-Dichloropropene	ND		0.50	ug/L			04/17/23 02:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		0.50	ug/L			04/17/23 02:06	1
1,2,3-Trichloropropane	ND		0.50	ug/L			04/17/23 02:06	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			04/17/23 02:06	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			04/17/23 02:06	1
1,2-Dichloroethane	ND		0.50	ug/L			04/17/23 02:06	1
1,2-Dichloropropane	ND		0.50	ug/L			04/17/23 02:06	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			04/17/23 02:06	1
1,3-Dichloropropane	ND		0.50	ug/L			04/17/23 02:06	1
2,2-Dichloropropane	ND		0.50	ug/L			04/17/23 02:06	1
2-Butanone (MEK)	7.2		5.0	ug/L			04/17/23 02:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			04/17/23 02:06	1
Acetone	ND		500	ug/L			04/17/23 02:06	1
Benzene	ND		0.50	ug/L			04/17/23 02:06	1
Bromobenzene	ND		0.50	ug/L			04/17/23 02:06	1
Bromochloromethane	ND		0.50	ug/L			04/17/23 02:06	1
Bromodichloromethane	ND		0.50	ug/L			04/17/23 02:06	1
Bromoform	ND		0.50	ug/L			04/17/23 02:06	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			04/17/23 02:06	1
Carbon disulfide	ND		0.50	ug/L			04/17/23 02:06	1
Carbon tetrachloride	ND		0.50	ug/L			04/17/23 02:06	1
Chlorobenzene	ND		0.50	ug/L			04/17/23 02:06	1
Chlorodibromomethane	ND		0.50	ug/L			04/17/23 02:06	1
Chloroethane	ND		0.50	ug/L			04/17/23 02:06	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			04/17/23 02:06	1
Dichloromethane	ND		0.50	ug/L			04/17/23 02:06	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			04/17/23 02:06	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			04/17/23 02:06	1
Dibromomethane	ND		0.50	ug/L			04/17/23 02:06	1
Dichlorodifluoromethane	ND		0.50	ug/L			04/17/23 02:06	1
Ethylbenzene	ND		0.50	ug/L			04/17/23 02:06	1
Hexachlorobutadiene	ND		0.50	ug/L			04/17/23 02:06	1
Isopropy benzene	ND		0.50	ug/L			04/17/23 02:06	1
m,p-Xylenes	ND	^3+	0.50	ug/L			04/17/23 02:06	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			04/17/23 02:06	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			04/17/23 02:06	1
Naphthalene	ND		0.50	ug/L			04/17/23 02:06	1
n-Butylbenzene	ND		0.50	ug/L			04/17/23 02:06	1
N-Propylbenzene	ND		0.50	ug/L			04/17/23 02:06	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			04/17/23 02:06	1
o-Chlorotoluene	ND		0.50	ug/L			04/17/23 02:06	1
o-Xylene	ND		0.50	ug/L			04/17/23 02:06	1
p-Chlorotoluene	ND		0.50	ug/L			04/17/23 02:06	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			04/17/23 02:06	1
p-Isopropyltoluene	ND		0.50	ug/L			04/17/23 02:06	1
sec-Butylbenzene	ND		0.50	ug/L			04/17/23 02:06	1
Styrene	ND		0.50	ug/L			04/17/23 02:06	1
Tert-amyl methyl ether	ND		3.0	ug/L			04/17/23 02:06	1
Tert-butyl ethyl ether	ND		3.0	ug/L			04/17/23 02:06	1
tert-Butylbenzene	ND		0.50	ug/L			04/17/23 02:06	1

Client Sample Results

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

Job ID: 380-43175-1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene (PCE)	ND		0.50	ug/L			04/17/23 02:06	1
Toluene	ND		0.50	ug/L			04/17/23 02:06	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			04/17/23 02:06	1
Xylenes, Total	ND		0.50	ug/L			04/17/23 02:06	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			04/17/23 02:06	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			04/17/23 02:06	1
Trichloroethylene (TCE)	ND		0.50	ug/L			04/17/23 02:06	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			04/17/23 02:06	1
Vinyl Chloride (VC)	ND		0.30	ug/L			04/17/23 02:06	1
Trichlorotrifluoroethane	ND		0.50	ug/L			04/17/23 02:06	1
Bromoethane	ND		0.50	ug/L			04/17/23 02:06	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			04/17/23 02:06	1
Diisopropyl ether	ND		3.0	ug/L			04/17/23 02:06	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	900	T J	ug/L		1.10	N/A		04/17/23 02:06	1
Unknown	0.79	T J	ug/L		1.55	N/A		04/17/23 02:06	1
Tetrahydrofuran	80		ug/L		5.53	109-99-9		04/17/23 02:06	1
Furfural	1.2	T J N	ug/L		10.01	98-01-1		04/17/23 02:06	1
Unknown	1.0	T J	ug/L		11.32	N/A		04/17/23 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		04/17/23 02:06	1
4-Bromofluorobenzene (Surr)	108		70 - 130		04/17/23 02:06	1
Toluene-d8 (Surr)	100		70 - 130		04/17/23 02:06	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.039	ug/L		04/14/23 13:00	04/14/23 22:07	1
1,2-D bromo-3-Chloropropane	ND		0.0099	ug/L		04/14/23 13:00	04/14/23 22:07	1
1,2-D bromoethane	ND		0.0099	ug/L		04/14/23 13:00	04/14/23 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	104		60 - 140	04/14/23 13:00	04/14/23 22:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/13/23 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	88		60 - 140		04/13/23 16:28	1

Action Limit Summary

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	EPAMCL S Limit	Method	Prep Type
Trihalomethanes, Total	ND		ug/L		80		524.2	Total/NA
1,1,1-Trichloroethane	ND		ug/L	200.0	200		524.2	Total/NA
1,1,2-Trichloroethane	ND		ug/L	5.000	5		524.2	Total/NA
1,1-Dichloroethylene	ND		ug/L	7.000	7		524.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L				524.2	Total/NA
1,2,4-Trichlorobenzene	ND		ug/L	70.00	70		524.2	Total/NA
1,2-Dichloroethane	ND		ug/L	5.000	5		524.2	Total/NA
1,2-Dichloropropane	ND		ug/L	5.000	5		524.2	Total/NA
Benzene	ND		ug/L	5.000	5		524.2	Total/NA
Carbon tetrachloride	ND		ug/L	5.000	5		524.2	Total/NA
Chlorobenzene	ND		ug/L	100.0	100		524.2	Total/NA
cis-1,2-Dichloroethylene	ND		ug/L	70.00	70		524.2	Total/NA
Dichloromethane	ND		ug/L	5.000	5		524.2	Total/NA
Ethylbenzene	ND		ug/L	700.0	700		524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	ND		ug/L	600.0	600		524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	ND		ug/L	75.000	75		524.2	Total/NA
Styrene	ND		ug/L	100.0	100		524.2	Total/NA
Tetrachloroethene (PCE)	ND		ug/L	5.000	5		524.2	Total/NA
Toluene	ND		ug/L	1000	1000		524.2	Total/NA
trans-1,2-Dichloroethylene	ND		ug/L	100.0	100		524.2	Total/NA
Trichloroethylene (TCE)	ND		ug/L	5.000	5		524.2	Total/NA
Vinyl Chloride (VC)	ND		ug/L	2.000	2		524.2	Total/NA
Xylenes, Total	ND		ug/L	10000	10000		524.2	Total/NA
Alachlor	ND		ug/L		2		525.2 LL	Total/NA
Benzo[a]pyrene	ND		ug/L		0.2		525.2 LL	Total/NA
Endrin	ND		ug/L		2		525.2 LL	Total/NA
Heptachlor	ND		ug/L		0.4		525.2 LL	Total/NA
Heptachlor epoxide	ND		ug/L		0.2		525.2 LL	Total/NA
Methoxychlor	ND		ug/L		40		525.2 LL	Total/NA
gamma-BHC (Lindane)	ND		ug/L		0.2		525.2 LL	Total/NA
Atrazine	ND		ug/L		3		525.2 LL	Total/NA
Di(2-ethylhexyl)adipate	ND	+	ug/L		400		525.2 LL	Total/NA
Di (2-ethylhexyl)phthalate	ND	+	ug/L		6		525.2 LL	Total/NA
Hexachlorobenzene	ND		ug/L		1		525.2 LL	Total/NA
Hexachlorocyclopentadiene	ND		ug/L		50		525.2 LL	Total/NA
Simazine	ND		ug/L		4		525.2 LL	Total/NA
1,2,3-Trichloropropane	ND		ug/L				504.1	Total/NA
1,2-D bromo-3-Chloropropane	ND		ug/L		0.2		504.1	Total/NA
1,2-D bromoethane	ND		ug/L		0.05		504.1	Total/NA
Chlordane (technical)	ND		ug/L		2		505	Total/NA
Toxaphene	ND		ug/L		3		505	Total/NA
Polychlorinated biphenyls, Total	ND		ug/L		0.5		505	Total/NA
Chloride	86		mg/L			250	300.0	Total/NA
Nitrate as N	0.38		mg/L		10		300.0	Total/NA
Nitrite as N	ND		mg/L		1		300.0	Total/NA
Sulfate	12		mg/L			250	300.0	Total/NA
Mercury	ND		ug/L		2		245.1	Total/NA
Total Dissolved Solids	240		mg/L			500	SM 2540C	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS (Continued)

Lab Sample ID: 380-43175-1

Compliance Check

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

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

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	HI Org Limit	EPAMCL Limit	RL	Method	Prep Type
Trihalomethanes, Total	ND		ug/L		80	0.50	524.2	Total/NA
1,1,1-Trichloroethane	ND		ug/L	200.0	200	0.50	524.2	Total/NA
1,1,2-Trichloroethane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
1,1-Dichloroethylene	ND		ug/L	7.000	7	0.50	524.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L			0.50	524.2	Total/NA
1,2,4-Trichlorobenzene	ND		ug/L	70.00	70	0.50	524.2	Total/NA
1,2-Dichloroethane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
1,2-Dichloropropane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Benzene	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Carbon tetrachloride	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Chlorobenzene	ND		ug/L	100.0	100	0.50	524.2	Total/NA
Dichloromethane	ND		ug/L	5.000	5	0.50	524.2	Total/NA
cis-1,2-Dichloroethylene	ND		ug/L	70.00	70	0.50	524.2	Total/NA
Ethylbenzene	ND		ug/L	700.0	700	0.50	524.2	Total/NA
o-Dichlorobenzene (1,2-DCB)	ND		ug/L	600.0	600	0.50	524.2	Total/NA
p-Dichlorobenzene (1,4-DCB)	ND		ug/L	75.000	75	0.50	524.2	Total/NA
Styrene	ND		ug/L	100.0	100	0.50	524.2	Total/NA
Tetrachloroethene (PCE)	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Toluene	ND		ug/L	1000	1000	0.50	524.2	Total/NA
Xylenes, Total	ND		ug/L	10000	10000	0.50	524.2	Total/NA
trans-1,2-Dichloroethylene	ND		ug/L	100.0	100	0.50	524.2	Total/NA
Trichloroethylene (TCE)	ND		ug/L	5.000	5	0.50	524.2	Total/NA
Vinyl Chloride (VC)	ND		ug/L	2.000	2	0.30	524.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L			0.039	504.1	Total/NA
1,2-D bromo-3-Chloropropane	ND		ug/L		0.2	0.0099	504.1	Total/NA
1,2-D bromoethane	ND		ug/L		0.05	0.0099	504.1	Total/NA

Surrogate Summary

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

Job ID: 380-43175-1

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)
380-43175-1	MOANALUA WELLS	99	109	104
380-43175-2	TB: MOANALUA WELLS	99	86	104
LCS 380-37140/8	Lab Control Sample	99	100	100
LCS 380-37140/9	Lab Control Sample Dup	98	100	99
MB 380-37140/11	Method Blank	99	101	101

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

Method: 524.2 - Volatile Organic Compounds (GC/MS 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 380-37140/10	Lab Control Sample	100	99	102

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)
380-43175-1	MOANALUA WELLS	116	108	104
380-43175-2	TB: MOANALUA WELLS	107	108	100
LCS 380-36882/3	Lab Control Sample	99	105	88
LCS 380-36882/4	Lab Control Sample Dup	99	109	100
MB 380-36882/5	Method Blank	98	100	105

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-43175-1	MOANALUA WELLS	100	97	117
380-43475-K-2-A DU	Duplicate	101	92	121
810-59613-F-1-A MS	Matrix Spike	101	97	114
LCS 810-56418/1-A	Lab Control Sample	104	102	112
LLCS 810-56418/3-A	Lab Control Sample	101	96	108

Surrogate Summary

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

Job ID: 380-43175-1

Method: 525.2 LL - 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)
LLCS 810-56423/3-A	Lab Control Sample	100	100	112
MB 810-56418/2-A	Method Blank	101	96	106

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBPP1 (60-140)
380-43143-T-1-A MS	Matrix Spike	101
380-43156-G-1-A DU	Duplicate	99
380-43175-1	MOANALUA WELLS	106
380-43175-2	TB: MOANALUA WELLS	104
LCS 380-36679/3-A	Lab Control Sample	83
MBL 380-36679/4-A	Method Blank	101
MRL 380-36679/1-A	Lab Control Sample	97
MRL 380-36679/2-A	Lab Control Sample	81

Surrogate Legend

DBPP = 1,2-D bromopropane (Surr)

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

Matrix: BlankMatrix

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PHL (0-130)	TBP (30-130)
105080-B1	Method Blank	57	50
105080-BS1	Lab Control Sample	58	54
105080-BS2	Lab Control Sample Dup	64	54

Surrogate Legend

PHL = (d5-Phenol)
TBP = (2,4,6-Tribromophenol)

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

Matrix: BlankMatrix

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Acenaphthl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
105080-B1	Method Blank	73	76	65	54	82
105080-BS1	Lab Control Sample	54	71	63	53	81
105080-BS2	Lab Control Sample Dup	73	76	68	62	77

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)

Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-43175-1

Project/Site: RED-HILL

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PHL (0-85)	TBP (31-143)
380-43175-1	MOANALUA WELLS	18	48

Surrogate Legend

PHL = (d5-Phenol)

TBP = (2,4,6-Tribromophenol)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Acenaphth (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-43175-1	MOANALUA WELLS	80	74	80	85	70

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

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)
23D125-01M	Matrix Spike	109
23D125-01S	Matrix Spike Duplicate	113

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
23VGH7D08B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-43175-1

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)
23VGH7D08C	LCD	111
23VGH7D08L	Lab Control Sample	107

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)
380-43175-1	MOANALUA WELLS	78
380-43175-2	TB: MOANALUA WELLS	88

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)
23D125-01M	Matrix Spike	74	110
23D125-01M	Matrix Spike	84	103
23D125-01S	Matrix Spike Duplicate	63	102
23D125-01S	Matrix Spike Duplicate	71	95
23DSD016WC	LCD	83	102
23DSD016WL	Lab Control Sample	70	101
23J5D016WC	LCD	78	91
23J5D016WL	Lab Control Sample	91	101
23J8D016WC	LCD	83	93
23J8D016WL	Lab Control Sample	98	97

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
23DSD016WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Surrogate Summary

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

Job ID: 380-43175-1

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)
380-43175-1	MOANALUA WELLS	74	90

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: 380-43175-1

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

Lab Sample ID: MB 380-36882/5
Matrix: Water
Analysis Batch: 36882

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	ug/L			04/16/23 23:05	1
1,1,1-Trichloroethane	ND		0.50	ug/L			04/16/23 23:05	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			04/16/23 23:05	1
1,1,2-Trichloroethane	ND		0.50	ug/L			04/16/23 23:05	1
1,1-Dichloroethane	ND		0.50	ug/L			04/16/23 23:05	1
1,1-Dichlorethylene	ND		0.50	ug/L			04/16/23 23:05	1
1,1-Dichloropropene	ND		0.50	ug/L			04/16/23 23:05	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			04/16/23 23:05	1
1,2,3-Trichloropropane	ND		0.50	ug/L			04/16/23 23:05	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			04/16/23 23:05	1
1,2,4-Trimethy benzene	ND		0.50	ug/L			04/16/23 23:05	1
1,2-Dichloroethane	ND		0.50	ug/L			04/16/23 23:05	1
1,2-Dichloropropane	ND		0.50	ug/L			04/16/23 23:05	1
1,3,5-Trimethy benzene	ND		0.50	ug/L			04/16/23 23:05	1
1,3-Dichloropropane	ND		0.50	ug/L			04/16/23 23:05	1
2,2-Dichloropropane	ND		0.50	ug/L			04/16/23 23:05	1
2-Butanone (MEK)	ND		5.0	ug/L			04/16/23 23:05	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			04/16/23 23:05	1
Acetone	ND		500	ug/L			04/16/23 23:05	1
Benzene	ND		0.50	ug/L			04/16/23 23:05	1
Bromobenzene	ND		0.50	ug/L			04/16/23 23:05	1
Bromochloromethane	ND		0.50	ug/L			04/16/23 23:05	1
Bromodichloromethane	ND		0.50	ug/L			04/16/23 23:05	1
Bromoform	ND		0.50	ug/L			04/16/23 23:05	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			04/16/23 23:05	1
Carbon disulfide	ND		0.50	ug/L			04/16/23 23:05	1
Carbon tetrachloride	ND		0.50	ug/L			04/16/23 23:05	1
Chlorobenzene	ND		0.50	ug/L			04/16/23 23:05	1
Chlorodibromomethane	ND		0.50	ug/L			04/16/23 23:05	1
Chloroethane	ND		0.50	ug/L			04/16/23 23:05	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			04/16/23 23:05	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			04/16/23 23:05	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			04/16/23 23:05	1
Dibromomethane	ND		0.50	ug/L			04/16/23 23:05	1
Dichlorodifluoromethane	ND		0.50	ug/L			04/16/23 23:05	1
Dichloromethane	ND		0.50	ug/L			04/16/23 23:05	1
Ethylbenzene	ND		0.50	ug/L			04/16/23 23:05	1
Hexachlorobutadiene	ND		0.50	ug/L			04/16/23 23:05	1
Isopropy benzene	ND		0.50	ug/L			04/16/23 23:05	1
m,p-Xylenes	ND	^3+	0.50	ug/L			04/16/23 23:05	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			04/16/23 23:05	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			04/16/23 23:05	1
Naphthalene	ND		0.50	ug/L			04/16/23 23:05	1
n-Butylbenzene	ND		0.50	ug/L			04/16/23 23:05	1
N-Propylbenzene	ND		0.50	ug/L			04/16/23 23:05	1
o-Chlorotoluene	ND		0.50	ug/L			04/16/23 23:05	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			04/16/23 23:05	1
o-Xylene	ND		0.50	ug/L			04/16/23 23:05	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: MB 380-36882/5
Matrix: Water
Analysis Batch: 36882

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
p-Chlorotoluene	ND		0.50	ug/L			04/16/23 23:05	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			04/16/23 23:05	1
p-Isopropyltoluene	ND		0.50	ug/L			04/16/23 23:05	1
sec-Butylbenzene	ND		0.50	ug/L			04/16/23 23:05	1
Styrene	ND		0.50	ug/L			04/16/23 23:05	1
Tert-amyl methyl ether	ND		3.0	ug/L			04/16/23 23:05	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			04/16/23 23:05	1
Tert-butyl ethyl ether	ND		3.0	ug/L			04/16/23 23:05	1
tert-Butylbenzene	ND		0.50	ug/L			04/16/23 23:05	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			04/16/23 23:05	1
Toluene	ND		0.50	ug/L			04/16/23 23:05	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			04/16/23 23:05	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			04/16/23 23:05	1
Trichloroethylene (TCE)	ND		0.50	ug/L			04/16/23 23:05	1
Bromoethane	ND		0.50	ug/L			04/16/23 23:05	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			04/16/23 23:05	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			04/16/23 23:05	1
Trichlorotrifluoroethane	ND		0.50	ug/L			04/16/23 23:05	1
Diisopropyl ether	ND		3.0	ug/L			04/16/23 23:05	1
Vinyl Chloride (VC)	ND		0.30	ug/L			04/16/23 23:05	1
Xylenes, Total	ND		0.50	ug/L			04/16/23 23:05	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A		04/16/23 23:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130		04/16/23 23:05	1
4-Bromofluorobenzene (Surr)	100		70 - 130		04/16/23 23:05	1
Toluene-d8 (Surr)	105		70 - 130		04/16/23 23:05	1

Lab Sample ID: LCS 380-36882/3
Matrix: Water
Analysis Batch: 36882

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	5.00	5.18		ug/L		104	70 - 130
1,1,1-Trichloroethane	5.00	5.05		ug/L		101	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.42		ug/L		88	70 - 130
1,1,2-Trichloroethane	5.00	4.82		ug/L		96	70 - 130
1,1-Dichloroethane	5.00	5.40		ug/L		108	70 - 130
1,1-Dichloroethylene	5.00	5.31		ug/L		106	70 - 130
1,1-Dichloropropene	5.00	5.14		ug/L		103	70 - 130
1,2,3-Trichlorobenzene	5.00	4.35		ug/L		87	70 - 130
1,2,3-Trichloropropane	5.00	4.32		ug/L		86	70 - 130
1,2,4-Trichlorobenzene	5.00	4.26		ug/L		85	70 - 130
1,2,4-Trimethyl benzene	5.00	5.47		ug/L		109	70 - 130
1,2-Dichloroethane	5.00	4.83		ug/L		97	70 - 130
1,2-Dichloropropane	5.00	4.77		ug/L		95	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 380-36882/3
Matrix: Water
Analysis Batch: 36882

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethy benzene	5.00	5.57		ug/L		111	70 - 130
1,3-Dichloropropane	5.00	4.95		ug/L		99	70 - 130
2,2-Dichloropropane	5.00	4.85		ug/L		97	70 - 130
2-Butanone (MEK)	50.0	41.2		ug/L		82	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	43.9		ug/L		88	70 - 130
Acetone	50.0	46.4	J	ug/L		93	70 - 130
Benzene	5.00	4.87		ug/L		97	70 - 130
Bromobenzene	5.00	4.76		ug/L		95	70 - 130
Bromochloromethane	5.00	4.87		ug/L		97	70 - 130
Bromodichloromethane	5.00	4.46		ug/L		89	70 - 130
Bromoform	5.00	5.29		ug/L		106	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.02		ug/L		100	70 - 130
Carbon disulfide	5.00	4.97		ug/L		99	70 - 130
Carbon tetrachloride	5.00	5.67		ug/L		113	70 - 130
Chlorobenzene	5.00	4.65		ug/L		93	70 - 130
Chlorodibromomethane	5.00	5.67		ug/L		113	70 - 130
cis-1,3-Dichloropropene	5.00	4.60		ug/L		92	70 - 130
Dichloromethane	5.00	5.20		ug/L		104	70 - 130
Ethylbenzene	5.00	5.29		ug/L		106	70 - 130
Hexachlorobutadiene	5.00	4.76		ug/L		95	70 - 130
Isopropyl benzene	5.00	5.56		ug/L		111	70 - 130
m,p-Xylenes	10.0	9.65	^3+	ug/L		97	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.34		ug/L		107	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	4.75		ug/L		95	70 - 130
Naphthalene	5.00	4.13		ug/L		83	70 - 130
n-Butylbenzene	5.00	5.30		ug/L		106	70 - 130
N-Propylbenzene	5.00	5.34		ug/L		107	70 - 130
o-Chlorotoluene	5.00	5.40		ug/L		108	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	4.99		ug/L		100	70 - 130
o-Xylene	5.00	5.44		ug/L		109	70 - 130
p-Chlorotoluene	5.00	5.50		ug/L		110	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.51		ug/L		110	70 - 130
p-Isopropyltoluene	5.00	5.15		ug/L		103	70 - 130
sec-Butylbenzene	5.00	5.26		ug/L		105	70 - 130
Styrene	5.00	5.21		ug/L		104	70 - 130
Tert-amyl methyl ether	5.00	4.80		ug/L		96	70 - 130
1,3-Dichloropropene, Total	10.0	8.97		ug/L		90	70 - 130
Tert-butyl ethyl ether	5.00	4.61		ug/L		92	70 - 130
tert-Butylbenzene	5.00	5.08		ug/L		102	70 - 130
Tetrachloroethene (PCE)	5.00	5.08		ug/L		102	70 - 130
Toluene	5.00	4.04		ug/L		81	70 - 130
trans-1,2-Dichloroethylene	5.00	5.40		ug/L		108	70 - 130
trans-1,3-Dichloropropene	5.00	4.37		ug/L		87	70 - 130
Trichloroethylene (TCE)	5.00	4.94		ug/L		99	70 - 130
Bromoethane	5.00	4.99		ug/L		100	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	5.53		ug/L		111	70 - 130
Trichlorotrifluoroethane	5.00	5.07		ug/L		101	70 - 130
Diisopropyl ether	5.00	5.05		ug/L		101	70 - 130

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 380-36882/3
Matrix: Water
Analysis Batch: 36882

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl Chloride (VC)	5.00	5.18		ug/L		104	70 - 130
Xylenes, Total	15.0	15.1		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Toluene-d8 (Surr)	88		70 - 130

Lab Sample ID: LCSD 380-36882/4
Matrix: Water
Analysis Batch: 36882

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	5.00	5.26		ug/L		105	70 - 130	2	20
1,1,1-Trichloroethane	5.00	5.12		ug/L		102	70 - 130	1	20
1,1,2,2-Tetrachloroethane	5.00	5.41		ug/L		108	70 - 130	20	20
1,1,2-Trichloroethane	5.00	4.76		ug/L		95	70 - 130	1	20
1,1-Dichloroethane	5.00	5.33		ug/L		107	70 - 130	1	20
1,1-Dichlorethylene	5.00	5.71		ug/L		114	70 - 130	7	20
1,1-Dichloropropene	5.00	5.63		ug/L		113	70 - 130	9	20
1,2,3-Trichlorobenzene	5.00	4.72		ug/L		94	70 - 130	8	20
1,2,3-Trichloropropane	5.00	5.19		ug/L		104	70 - 130	18	20
1,2,4-Trichlorobenzene	5.00	4.81		ug/L		96	70 - 130	12	20
1,2,4-Trimethy benzene	5.00	6.15		ug/L		123	70 - 130	12	20
1,2-Dichloroethane	5.00	5.12		ug/L		102	70 - 130	6	20
1,2-Dichloropropane	5.00	4.97		ug/L		99	70 - 130	4	20
1,3,5-Trimethy benzene	5.00	6.03		ug/L		121	70 - 130	8	20
1,3-Dichloropropane	5.00	4.65		ug/L		93	70 - 130	6	20
2,2-Dichloropropane	5.00	4.84		ug/L		97	70 - 130	0	20
2-Butanone (MEK)	50.0	47.1		ug/L		94	70 - 130	13	20
4-Methyl-2-pentanone (MIBK)	50.0	44.5		ug/L		89	70 - 130	1	20
Acetone	50.0	48.9	J	ug/L		98	70 - 130	5	20
Benzene	5.00	5.24		ug/L		105	70 - 130	7	20
Bromobenzene	5.00	5.41		ug/L		108	70 - 130	13	20
Bromochloromethane	5.00	5.21		ug/L		104	70 - 130	7	20
Bromodichloromethane	5.00	4.91		ug/L		98	70 - 130	10	20
Bromoform	5.00	5.39		ug/L		108	70 - 130	2	20
Bromomethane (Methyl Bromide)	5.00	5.10		ug/L		102	70 - 130	2	20
Carbon disulfide	5.00	5.10		ug/L		102	70 - 130	3	20
Carbon tetrachloride	5.00	5.25		ug/L		105	70 - 130	8	20
Chlorobenzene	5.00	4.80		ug/L		96	70 - 130	3	20
Chlorodibromomethane	5.00	5.77		ug/L		115	70 - 130	2	20
cis-1,3-Dichloropropene	5.00	4.74		ug/L		95	70 - 130	3	20
Dichloromethane	5.00	5.24		ug/L		105	70 - 130	1	20
Ethylbenzene	5.00	5.18		ug/L		104	70 - 130	2	20
Hexachlorobutadiene	5.00	5.24		ug/L		105	70 - 130	10	20
Isopropy benzene	5.00	6.02		ug/L		120	70 - 130	8	20
m,p-Xylenes	10.0	9.58	^3+	ug/L		96	70 - 130	1	20

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCSD 380-36882/4
Matrix: Water
Analysis Batch: 36882

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	5.94		ug/L		119	70 - 130	11	20
Methyl-tert-butyl Ether (MTBE)	5.00	4.91		ug/L		98	70 - 130	3	20
Naphthalene	5.00	4.23		ug/L		85	70 - 130	2	20
n-Butylbenzene	5.00	5.89		ug/L		118	70 - 130	10	20
N-Propylbenzene	5.00	5.97		ug/L		119	70 - 130	11	20
o-Chlorotoluene	5.00	6.24		ug/L		125	70 - 130	14	20
o-Dichlorobenzene (1,2-DCB)	5.00	5.42		ug/L		108	70 - 130	8	20
o-Xylene	5.00	5.03		ug/L		101	70 - 130	8	20
p-Chlorotoluene	5.00	5.68		ug/L		114	70 - 130	3	20
p-Dichlorobenzene (1,4-DCB)	5.00	6.11		ug/L		122	70 - 130	10	20
p-Isopropyltoluene	5.00	5.76		ug/L		115	70 - 130	11	20
sec-Butylbenzene	5.00	5.90		ug/L		118	70 - 130	11	20
Styrene	5.00	5.67		ug/L		113	70 - 130	9	20
Tert-amyl methyl ether	5.00	4.92		ug/L		98	70 - 130	3	20
1,3-Dichloropropene, Total	10.0	9.42		ug/L		94	70 - 130	5	20
Tert-butyl ethyl ether	5.00	4.35		ug/L		87	70 - 130	6	20
tert-Butylbenzene	5.00	5.80		ug/L		116	70 - 130	13	20
Tetrachloroethene (PCE)	5.00	4.99		ug/L		100	70 - 130	2	20
Toluene	5.00	4.43		ug/L		89	70 - 130	9	20
trans-1,2-Dichloroethylene	5.00	5.33		ug/L		107	70 - 130	1	20
trans-1,3-Dichloropropene	5.00	4.68		ug/L		94	70 - 130	7	20
Trichloroethylene (TCE)	5.00	4.95		ug/L		99	70 - 130	0	20
Bromoethane	5.00	5.29		ug/L		106	70 - 130	6	20
Trichlorofluoromethane (Freon 11)	5.00	5.69		ug/L		114	70 - 130	3	20
Trichlorotrifluoroethane	5.00	5.48		ug/L		110	70 - 130	8	20
Diisopropyl ether	5.00	4.68		ug/L		94	70 - 130	8	20
Vinyl Chloride (VC)	5.00	5.34		ug/L		107	70 - 130	3	20
Xylenes, Total	15.0	14.6		ug/L		97	70 - 130	3	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	109		70 - 130
Toluene-d8 (Surr)	100		70 - 130

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

Lab Sample ID: MB 380-37140/11
Matrix: Water
Analysis Batch: 37140

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	ND		2.0	ug/L			04/18/23 19:03	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		70 - 130		04/18/23 19:03	1
4-Bromofluorobenzene (Surr)	101		70 - 130		04/18/23 19:03	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		04/18/23 19:03	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 380-37140/8
Matrix: Water
Analysis Batch: 37140

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

Lab Sample ID: LCSD 380-37140/9
Matrix: Water
Analysis Batch: 37140

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	5.05		ug/L		101	70 - 130	1	20
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	98		70 - 130						
4-Bromofluorobenzene (Surr)	100		70 - 130						
1,2-Dichloroethane-d4 (Surr)	99		70 - 130						

Lab Sample ID: MRL 380-37140/10
Matrix: Water
Analysis Batch: 37140

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	1.95	J	ug/L		98	50 - 150
MRL MRL							
Surrogate	%Recovery	Qualifier	Limits				
Toluene-d8 (Surr)	100		50 - 150				
4-Bromofluorobenzene (Surr)	99		50 - 150				
1,2-Dichloroethane-d4 (Surr)	102		50 - 150				

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

Lab Sample ID: MB 810-56418/2-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56418

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alachlor	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Benzo[a]anthracene	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Aldrin	ND		0.0099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Benzo[b]fluoranthene	ND		0.020	ug/L		04/24/23 09:11	04/25/23 12:02	1
Benzo[k]fluoranthene	ND		0.020	ug/L		04/24/23 09:11	04/25/23 12:02	1
Dieldrin	ND		0.0099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Benzo[a]pyrene	ND		0.020	ug/L		04/24/23 09:11	04/25/23 12:02	1
Endrin	ND		0.0099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Heptachlor	ND		0.0099	ug/L		04/24/23 09:11	04/25/23 12:02	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: MB 810-56418/2-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56418

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butylbenzylphthalate	ND		0.49	ug/L		04/24/23 09:11	04/25/23 12:02	1
Heptachlor epoxide	ND		0.0099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Methoxychlor	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
gamma-BHC (Lindane)	ND		0.0099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Acenaphthylene	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Atrazine	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Chlorobenzilate	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
trans-Nonachlor	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
alpha-Chlordane	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
gamma-Chlordane	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Butachlor	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Bromacil	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Chlorothalonil	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Chlorpyrifos	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
4,4'-DDD	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
4,4'-DDT	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Di-n-butyl phthalate	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Dichlorvos	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Diethylphthalate	ND		0.49	ug/L		04/24/23 09:11	04/25/23 12:02	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		04/24/23 09:11	04/25/23 12:02	1
Di (2-ethylhexyl)phthalate	ND		0.59	ug/L		04/24/23 09:11	04/25/23 12:02	1
Dimethylphthalate	ND		0.49	ug/L		04/24/23 09:11	04/25/23 12:02	1
Endosulfan I	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Endosulfan sulfate	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Endrin aldehyde	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Hexachlorobenzene	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
alpha-BHC	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
beta-BHC	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
delta-BHC	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Isophorone	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Metolachlor	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Molinate	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Propachlor	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Simazine	ND		0.049	ug/L		04/24/23 09:11	04/25/23 12:02	1
Terbacil	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Trifluralin	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Chloroneb	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Fluoranthene	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Thiobencarb	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Parathion	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Di-n-octyl phthalate	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Malathion	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Pendimethalin	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1
Terbutylazine	ND		0.099	ug/L		04/24/23 09:11	04/25/23 12:02	1

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: MB 810-56418/2-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56418

<i>Tentatively Identified Compound</i>	<i>MB</i>	<i>MB</i>	<i>Unit</i>	<i>D</i>	<i>RT</i>	<i>CAS No.</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Tentatively Identified Compound</i>	None		ug/L			N/A	04/24/23 09:11	04/25/23 12:02	1

<i>Surrogate</i>	<i>MB</i>	<i>MB</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>2-Nitro-m-xylene (Surr)</i>	101		70 - 130	04/24/23 09:11	04/25/23 12:02	1
<i>Perylene-d12 (Surr)</i>	96		70 - 130	04/24/23 09:11	04/25/23 12:02	1
<i>Triphenylphosphate (Surr)</i>	106		70 - 130	04/24/23 09:11	04/25/23 12:02	1

Lab Sample ID: LCS 810-56418/1-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56418

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
Alachlor	1.98	2.11		ug/L		107	70 - 130
Aldrin	1.98	1.89		ug/L		95	70 - 130
Dieldrin	1.98	1.97		ug/L		99	70 - 130
Endrin	1.98	1.98		ug/L		100	70 - 130
Heptachlor	1.98	1.94		ug/L		98	70 - 130
Heptachlor epoxide	1.98	2.13		ug/L		108	70 - 130
Methoxychlor	1.98	1.91		ug/L		97	70 - 130
gamma-BHC (Lindane)	1.98	2.03		ug/L		103	70 - 130
Chlorobenzilate	1.98	2.07		ug/L		105	70 - 130
trans-Nonachlor	1.98	2.05		ug/L		104	70 - 130
alpha-Chlordane	1.98	2.07		ug/L		105	70 - 130
gamma-Chlordane	1.98	2.22		ug/L		112	70 - 130
Butachlor	1.98	2.20		ug/L		111	70 - 130
Bromacil	1.98	1.87		ug/L		94	70 - 130
Chlorothalonil	1.98	1.95		ug/L		99	70 - 130
Chlorpyrifos	1.98	2.06		ug/L		104	70 - 130
4,4'-DDD	1.98	2.01		ug/L		102	70 - 130
4,4'-DDT	1.98	2.12		ug/L		107	70 - 130
Di-n-butyl phthalate	1.98	2.13		ug/L		107	70 - 130
Dichlorvos	1.98	1.86		ug/L		94	70 - 130
Diethylphthalate	1.98	1.99		ug/L		101	70 - 130
Di(2-ethylhexyl)adipate	1.98	1.93		ug/L		98	70 - 130
Di (2-ethylhexyl)phthalate	1.98	1.96		ug/L		99	70 - 130
Dimethylphthalate	1.98	1.98		ug/L		100	70 - 130
Endosulfan I	1.98	2.01		ug/L		101	70 - 130
Endosulfan sulfate	1.98	2.28		ug/L		115	70 - 130
Endrin aldehyde	1.98	1.83		ug/L		93	64 - 125
Hexachlorobenzene	1.98	1.97		ug/L		99	70 - 130
alpha-BHC	1.98	2.02		ug/L		102	70 - 130
beta-BHC	1.98	2.05		ug/L		103	70 - 130
delta-BHC	1.98	1.97		ug/L		99	70 - 130
Hexachlorocyclopentadiene	1.98	1.67		ug/L		84	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	1.96		ug/L		99	70 - 130
Isophorone	1.98	1.95		ug/L		99	70 - 130
Metolachlor	1.98	2.12		ug/L		107	70 - 130
Molinate	1.98	1.96		ug/L		99	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 810-56418/1-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	1.98	2.01		ug/L		101	70 - 130
Simazine	1.98	1.98		ug/L		100	70 - 130
Terbacil	1.98	1.77		ug/L		90	70 - 130
Trifluralin	1.98	2.01		ug/L		102	70 - 130
Chloroneb	1.98	1.85		ug/L		94	70 - 130
Fluoranthene	1.98	2.16		ug/L		109	70 - 130
Thiobencarb	1.98	2.06		ug/L		104	70 - 130
Parathion	1.98	2.07		ug/L		104	80 - 134
Di-n-octyl phthalate	1.98	1.96		ug/L		99	60 - 122
Malathion	1.98	2.02		ug/L		102	80 - 134
Pendimethalin	1.98	2.15		ug/L		109	65 - 122
Terbuthylazine	1.98	2.16		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene (Surr)	104		70 - 130
Perylene-d12 (Surr)	102		70 - 130
Triphenylphosphate (Surr)	112		70 - 130

Lab Sample ID: LLCS 810-56418/3-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Alachlor	0.00983	0.0135	J	ug/L		137	50 - 150
Aldrin	0.00983	0.00983		ug/L		100	50 - 150
Dieldrin	0.00983	0.0118		ug/L		120	50 - 150
Endrin	0.00983	0.0105		ug/L		106	50 - 150
Heptachlor	0.00983	0.0121		ug/L		123	50 - 150
Heptachlor epoxide	0.00983	0.0102		ug/L		104	50 - 150
Methoxychlor	0.00983	0.0125	J	ug/L		127	50 - 150
gamma-BHC (Lindane)	0.00983	0.00895	J	ug/L		91	50 - 150
Chlorobenzilate	0.00983	ND	*+	ug/L		158	50 - 150
trans-Nonachlor	0.00983	ND		ug/L		111	50 - 150
alpha-Chlordane	0.00983	0.0133	J	ug/L		135	50 - 150
gamma-Chlordane	0.00983	ND		ug/L		104	50 - 150
Butachlor	0.00983	ND	*+	ug/L		162	50 - 150
Bromacil	0.00983	ND		ug/L		137	50 - 150
Chlorothalonil	0.00983	ND		ug/L		126	50 - 150
Chlorpyrifos	0.00983	ND		ug/L		116	50 - 150
4,4'-DDD	0.00983	ND		ug/L		106	50 - 150
4,4'-DDT	0.00983	ND		ug/L		140	50 - 150
Di-n-butyl phthalate	0.00983	0.104	*+	ug/L		1057	50 - 150
Dichlorvos	0.00983	0.0108	J	ug/L		110	50 - 150
Diethylphthalate	0.00983	ND	*+	ug/L		190	50 - 150
Di(2-ethylhexyl)adipate	0.00983	ND	*+	ug/L		170	50 - 150
Di (2-ethylhexyl)phthalate	0.00983	0.237	J *+	ug/L		2417	50 - 150
Dimethylphthalate	0.00983	ND	*+	ug/L		151	50 - 150
Endosulfan I	0.00983	ND		ug/L		94	50 - 150

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LLCS 810-56418/3-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan sulfate	0.00983	ND		ug/L		140	50 - 150
Endrin aldehyde	0.00983	ND		ug/L		124	50 - 150
Hexachlorobenzene	0.00983	ND		ug/L		99	50 - 150
alpha-BHC	0.00983	0.0132	J	ug/L		134	50 - 150
beta-BHC	0.00983	0.0110	J	ug/L		112	50 - 150
delta-BHC	0.00983	0.0111	J	ug/L		113	50 - 150
Hexachlorocyclopentadiene	0.00983	ND		ug/L		79	50 - 150
Indeno[1,2,3-cd]pyrene	0.00983	ND		ug/L		95	50 - 150
Isophorone	0.00983	0.0174	J *+	ug/L		177	50 - 150
Metolachlor	0.00983	0.0136	J	ug/L		138	50 - 150
Molinate	0.00983	ND		ug/L		120	50 - 150
Propachlor	0.00983	0.0114	J	ug/L		116	50 - 150
Simazine	0.00983	ND		ug/L		123	50 - 150
Terbacil	0.00983	0.0203	J *+	ug/L		207	50 - 150
Trifluralin	0.00983	ND		ug/L		144	50 - 150
Chloroneb	0.00983	ND	*+	ug/L		172	50 - 150
Fluoranthene	0.00983	0.0106	J	ug/L		108	50 - 150
Thiobencarb	0.00983	0.0108	J	ug/L		110	50 - 150
Parathion	0.00983	ND		ug/L		121	50 - 150
Di-n-octyl phthalate	0.00983	0.0218	J *+	ug/L		222	50 - 150
Malathion	0.00983	0.0169	J *+	ug/L		172	50 - 150
Pendimethalin	0.00983	0.0231	J *+	ug/L		235	50 - 150
Terbutylazine	0.00983	0.0119	J	ug/L		121	50 - 150

Surrogate	LLCS %Recovery	LLCS Qualifier	Limits
2-Nitro-m-xylene (Surr)	101		70 - 130
Perylene-d12 (Surr)	96		70 - 130
Triphenylphosphate (Surr)	108		70 - 130

Lab Sample ID: 810-59613-F-1-A MS
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Alachlor	ND		1.95	2.05		ug/L		105	70 - 130
Aldrin	ND		1.95	1.82		ug/L		94	70 - 130
Dieldrin	ND		1.95	2.00		ug/L		103	70 - 130
Endrin	ND		1.95	2.04		ug/L		105	70 - 130
Heptachlor	ND		1.95	1.83		ug/L		94	70 - 130
Heptachlor epoxide	ND		1.95	2.24		ug/L		115	70 - 130
Methoxychlor	ND		1.95	2.02		ug/L		103	70 - 130
gamma-BHC (Lindane)	ND		1.95	2.00		ug/L		103	70 - 130
Chlorobenzilate	ND		1.95	2.22		ug/L		114	70 - 130
trans-Nonachlor	ND		1.95	2.16		ug/L		111	70 - 130
alpha-Chlordane	ND		1.95	2.20		ug/L		113	70 - 130
gamma-Chlordane	ND		1.95	2.30		ug/L		118	70 - 130
Butachlor	ND		1.95	2.28		ug/L		117	70 - 130
Bromacil	ND		1.95	2.03		ug/L		104	70 - 130

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 810-59613-F-1-A MS
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Chlorothalonil	ND		1.95	1.84		ug/L		95	70 - 130
Chlorpyrifos	ND		1.95	1.99		ug/L		102	70 - 130
4,4'-DDD	ND		1.95	2.03		ug/L		104	70 - 130
4,4'-DDT	ND		1.95	2.04		ug/L		105	70 - 130
Di-n-butyl phthalate	ND		1.95	2.13		ug/L		109	70 - 130
Dichlorvos	ND		1.95	1.86		ug/L		96	70 - 130
Diethylphthalate	ND		1.95	1.94		ug/L		100	70 - 130
Di(2-ethylhexyl)adipate	ND		1.95	1.90		ug/L		98	70 - 130
Di (2-ethylhexyl)phthalate	ND		1.95	2.02		ug/L		104	70 - 130
Dimethylphthalate	ND		1.95	1.91		ug/L		98	70 - 130
Endosulfan I	ND		1.95	2.03		ug/L		104	70 - 130
Endosulfan sulfate	ND		1.95	2.31		ug/L		119	70 - 130
Endrin aldehyde	ND		1.95	1.83		ug/L		94	64 - 125
Hexachlorobenzene	ND		1.95	1.90		ug/L		97	70 - 130
alpha-BHC	ND		1.95	2.00		ug/L		103	70 - 130
beta-BHC	ND		1.95	2.04		ug/L		105	70 - 130
delta-BHC	ND		1.95	1.96		ug/L		101	70 - 130
Hexachlorocyclopentadiene	ND		1.95	1.67		ug/L		85	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.95	1.90		ug/L		97	70 - 130
Isophorone	ND		1.95	1.91		ug/L		98	70 - 130
Metolachlor	ND		1.95	2.08		ug/L		107	70 - 130
Molinate	ND		1.95	1.91		ug/L		98	70 - 130
Propachlor	ND		1.95	1.91		ug/L		98	70 - 130
Simazine	ND		1.95	1.88		ug/L		97	70 - 130
Terbacil	ND		1.95	1.88		ug/L		97	70 - 130
Trifluralin	ND		1.95	2.01		ug/L		103	70 - 130
Chloroneb	ND		1.95	1.87		ug/L		96	70 - 130
Fluoranthene	ND		1.95	2.10		ug/L		108	70 - 130
Thiobencarb	ND		1.95	2.00		ug/L		103	70 - 130
Parathion	ND		1.95	2.05		ug/L		105	80 - 134
Di-n-octyl phthalate	ND		1.95	2.00		ug/L		102	60 - 122
Malathion	ND		1.95	2.01		ug/L		103	80 - 134
Pendimethalin	ND		1.95	2.25		ug/L		116	65 - 122
Terbutylazine	ND		1.95	2.05		ug/L		105	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene (Surr)	101		70 - 130
Perylene-d12 (Surr)	97		70 - 130
Triphenylphosphate (Surr)	114		70 - 130

Lab Sample ID: 380-43475-K-2-A DU
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Alachlor	ND		ND		ug/L			NC	15
Benzo[a]anthracene	ND		ND		ug/L			NC	14
Aldrin	ND		ND		ug/L			NC	18

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 380-43475-K-2-A DU
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Benzo[b]fluoranthene	ND		ND		ug/L		NC	20
Benzo[k]fluoranthene	ND		ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	19
Benzo[a]pyrene	ND		ND		ug/L		NC	26
Endrin	ND		ND		ug/L		NC	18
Benzo[g,h,i]perylene	ND		ND		ug/L		NC	14
Heptachlor	ND		ND		ug/L		NC	15
Butylbenzylphthalate	ND		ND		ug/L		NC	23
Heptachlor epoxide	ND		ND		ug/L		NC	14
Methoxychlor	ND		ND		ug/L		NC	14
gamma-BHC (Lindane)	ND		ND		ug/L		NC	13
Acenaphthylene	ND		ND		ug/L		NC	34
Atrazine	ND		ND		ug/L		NC	17
Chlorobenzilate	ND		ND		ug/L		NC	30
trans-Nonachlor	ND		ND		ug/L		NC	17
alpha-Chlordane	ND		ND		ug/L		NC	15
gamma-Chlordane	ND		ND		ug/L		NC	16
Butachlor	ND		ND		ug/L		NC	15
Bromacil	ND		ND		ug/L		NC	20
Chlorothalonil	ND		ND		ug/L		NC	15
Chlorpyrifos	ND		ND		ug/L		NC	30
4,4'-DDD	ND		ND		ug/L		NC	17
4,4'-DDT	ND		ND		ug/L		NC	19
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Dichlorvos	ND		ND		ug/L		NC	30
Diethylphthalate	ND		ND		ug/L		NC	21
Di(2-ethylhexyl)adipate	ND		ND		ug/L		NC	16
Di (2-ethylhexyl)phthalate	ND		ND		ug/L		NC	18
Dimethylphthalate	ND		ND		ug/L		NC	20
Endosulfan I	ND		ND		ug/L		NC	30
Endosulfan sulfate	ND		ND		ug/L		NC	30
Endrin aldehyde	ND		ND		ug/L		NC	30
Hexachlorobenzene	ND		ND		ug/L		NC	14
alpha-BHC	ND		ND		ug/L		NC	30
beta-BHC	ND		ND		ug/L		NC	30
delta-BHC	ND		ND		ug/L		NC	30
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	29
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	25
Isophorone	ND		ND		ug/L		NC	44
Metolachlor	ND		ND		ug/L		NC	14
Molinate	ND		ND		ug/L		NC	16
Propachlor	ND		ND		ug/L		NC	12
Simazine	ND		ND		ug/L		NC	21
Terbacil	ND		ND		ug/L		NC	22
Trifluralin	ND		ND		ug/L		NC	19
Chloroneb	ND		ND		ug/L		NC	30
Fluoranthene	ND		ND		ug/L		NC	13
Thiobencarb	ND		ND		ug/L		NC	11
Parathion	ND		ND		ug/L		NC	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 380-43475-K-2-A DU
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 56418

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Pendimethalin	ND		ND		ug/L		NC	30
Terbutylazine	ND		ND		ug/L		NC	30
	DU	DU						
Surrogate	%Recovery	Qualifier	Limits					
2-Nitro-m-xylene (Surr)	101		70 - 130					
Perylene-d12 (Surr)	92		70 - 130					
Triphenylphosphate (Surr)	121		70 - 130					

Lab Sample ID: LLCS 810-56423/3-A
Matrix: Water
Analysis Batch: 56545

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56423

Analyte	Spike Added	LLCS	LLCS	Unit	D	%Rec	%Rec Limits	
		Result	Qualifier					
Alachlor	0.0981	0.0879		ug/L		90	50 - 150	
Aldrin	0.0686	0.0597		ug/L		87	50 - 150	
Dieldrin	0.0196	0.0249		ug/L		127	50 - 150	
Endrin	0.00981	0.0128		ug/L		131	50 - 150	
Heptachlor	0.00981	0.0138		ug/L		141	50 - 150	
Heptachlor epoxide	0.00981	0.00789	J	ug/L		80	50 - 150	
Methoxychlor	0.0981	0.0726		ug/L		74	50 - 150	
gamma-BHC (Lindane)	0.0196	0.0191		ug/L		97	50 - 150	
Butachlor	0.0981	0.0976		ug/L		100	50 - 150	
Di(2-ethylhexyl)adipate	0.588	0.565	J	ug/L		96	50 - 150	
Di (2-ethylhexyl)phthalate	0.588	0.556	J	ug/L		94	50 - 150	
Hexachlorobenzene	0.0981	0.0862		ug/L		88	50 - 150	
Hexachlorocyclopentadiene	0.0981	0.0582		ug/L		59	50 - 150	
Metolachlor	0.0981	0.0942		ug/L		96	50 - 150	
Propachlor	0.0981	0.0829		ug/L		85	50 - 150	
Simazine	0.0686	0.0676		ug/L		98	50 - 150	
	LLCS	LLCS						
Surrogate	%Recovery	Qualifier	Limits					
2-Nitro-m-xylene (Surr)	100		70 - 130					
Perylene-d12 (Surr)	100		70 - 130					
Triphenylphosphate (Surr)	112		70 - 130					

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

Lab Sample ID: MBL 380-36679/4-A
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36679

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2,3-Trichloropropane	ND		0.040	ug/L		04/14/23 13:00	04/14/23 16:31	1
1,2-D bromo-3-Chloropropane	ND		0.010	ug/L		04/14/23 13:00	04/14/23 16:31	1
1,2-D bromoethane	ND		0.010	ug/L		04/14/23 13:00	04/14/23 16:31	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: MBL 380-36679/4-A
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 36679

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dibromopropane (Surr)	101		60 - 140	04/14/23 13:00	04/14/23 16:31	1

Lab Sample ID: LCS 380-36679/3-A
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36679

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
1,2,3-Trichloropropane	0.200	0.181		ug/L		90	70 - 130	
1,2-D bromo-3-Chloropropane	0.200	0.149		ug/L		74	70 - 130	
1,2-D bromoethane	0.200	0.163		ug/L		82	70 - 130	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dibromopropane (Surr)	83		60 - 140

Lab Sample ID: MRL 380-36679/1-A
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36679

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	
1,2,3-Trichloropropane	0.0400	0.0482		ug/L		121	60 - 140	

Surrogate	MRL MRL		Limits
	%Recovery	Qualifier	
1,2-Dibromopropane (Surr)	97		60 - 140

Lab Sample ID: MRL 380-36679/2-A
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 36679

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits	
1,2,3-Trichloropropane	0.0500	0.0434		ug/L		87	60 - 140	
1,2-D bromo-3-Chloropropane	0.0100	0.00851	J	ug/L		85	60 - 140	
1,2-D bromoethane	0.0100	0.00621	J	ug/L		62	60 - 140	

Surrogate	MRL MRL		Limits
	%Recovery	Qualifier	
1,2-Dibromopropane (Surr)	81		60 - 140

Lab Sample ID: 380-43143-T-1-A MS
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 36679

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
1,2,3-Trichloropropane	ND		1.24	1.33		ug/L		107	65 - 135	
1,2-D bromo-3-Chloropropane	ND		0.248	0.265		ug/L		107	65 - 135	
1,2-D bromoethane	ND		0.248	0.264		ug/L		107	65 - 135	

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

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 380-43156-G-1-A DU
Matrix: Water
Analysis Batch: 36944

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 36679

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit	
1,2,3-Trichloropropane	ND		ND		ug/L		NC	20	
1,2-D bromo-3-Chloropropane	ND		ND		ug/L		NC	20	
1,2-D bromoethane	ND		ND		ug/L		NC	20	
		<i>DU</i>	<i>DU</i>						
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>						
1,2-Dibromopropane (Surr)	99		60 - 140						

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Lab Sample ID: MB 810-56104/1-A
Matrix: Water
Analysis Batch: 56175

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 56104

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.080	ug/L		04/20/23 09:20	04/20/23 21:32	1
PCB-1221	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
PCB-1232	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
PCB-1242	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
PCB-1248	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
PCB-1254	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
PCB-1260	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
Chlordane (technical)	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
Toxaphene	ND		0.50	ug/L		04/20/23 09:20	04/20/23 21:32	1
Total PCBs as DCB (Qualitative)	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		04/20/23 09:20	04/20/23 21:32	1

Lab Sample ID: LLCS 810-56104/2-A
Matrix: Water
Analysis Batch: 56175

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56104

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (technical)	0.100	0.0864	J	ug/L		86	50 - 150

Lab Sample ID: LLCS 810-56104/3-A
Matrix: Water
Analysis Batch: 56175

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 56104

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	0.500	0.571		ug/L		114	50 - 150

Lab Sample ID: 810-59492-A-2-A MS
Matrix: Water
Analysis Batch: 56175

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1260	ND		1.00	1.10		ug/L		110	65 - 135

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 810-59510-I-1-A MS
Matrix: Water
Analysis Batch: 56175

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 56104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	ND		3.00	3.18		ug/L		106	65 - 135

Lab Sample ID: 810-59613-B-1-A DU
Matrix: Water
Analysis Batch: 56175

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 56104

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
PCB-1016	ND		ND		ug/L		NC	30
PCB-1221	ND		ND		ug/L		NC	30
PCB-1232	ND		ND		ug/L		NC	30
PCB-1242	ND		ND		ug/L		NC	30
PCB-1248	ND		ND		ug/L		NC	30
PCB-1254	ND		ND		ug/L		NC	30
PCB-1260	ND		ND		ug/L		NC	30
Chlordane (technical)	ND		ND		ug/L		NC	30
Toxaphene	ND		ND		ug/L		NC	30
Total PCBs as DCB (Qualitative)	ND		ND		ug/L		NC	
Polychlorinated biphenyls, Total	ND		ND		ug/L		NC	

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-36483/4
Matrix: Water
Analysis Batch: 36483

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	mg/L			04/11/23 10:46	1
Nitrite as N	ND		0.050	mg/L			04/11/23 10:46	1

Lab Sample ID: LCS 380-36483/7
Matrix: Water
Analysis Batch: 36483

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	2.52		mg/L		101	90 - 110
Nitrite as N	1.00	1.03		mg/L		103	90 - 110

Lab Sample ID: LCSD 380-36483/8
Matrix: Water
Analysis Batch: 36483

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	2.52		mg/L		101	90 - 110	0	20
Nitrite as N	1.00	1.04		mg/L		104	90 - 110	0	20

QC Sample Results

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

Job ID: 380-43175-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 380-36483/5
Matrix: Water
Analysis Batch: 36483

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	0.0123	J	mg/L		98	50 - 150
Nitrite as N	0.0125	0.0118	J	mg/L		94	50 - 150

Lab Sample ID: MRL 380-36483/6
Matrix: Water
Analysis Batch: 36483

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	0.0466	J	mg/L		93	50 - 150
Nitrite as N	0.0500	0.0508		mg/L		102	50 - 150

Lab Sample ID: 380-43116-B-3 MS
Matrix: Water
Analysis Batch: 36483

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	12		6.25	18.9		mg/L		104	80 - 120
Nitrite as N	ND		2.50	2.49		mg/L		100	80 - 120

Lab Sample ID: 380-43116-B-3 MSD
Matrix: Water
Analysis Batch: 36483

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	12		6.25	19.0		mg/L		105	80 - 120	0	20
Nitrite as N	ND		2.50	2.52		mg/L		101	80 - 120	1	20

Lab Sample ID: MB 380-36484/4
Matrix: Water
Analysis Batch: 36484

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	mg/L			04/11/23 10:46	1
Sulfate	ND		0.25	mg/L			04/11/23 10:46	1

Lab Sample ID: LCS 380-36484/7
Matrix: Water
Analysis Batch: 36484

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	26.3		mg/L		105	90 - 110
Sulfate	50.0	52.3		mg/L		105	90 - 110

Lab Sample ID: LCSD 380-36484/8
Matrix: Water
Analysis Batch: 36484

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.0	26.3		mg/L		105	90 - 110	0	20
Sulfate	50.0	52.2		mg/L		104	90 - 110	0	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 380-36484/5
Matrix: Water
Analysis Batch: 36484

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	0.109	J	mg/L		87	50 - 150
Sulfate	0.250	0.233	J	mg/L		93	50 - 150

Lab Sample ID: MRL 380-36484/6
Matrix: Water
Analysis Batch: 36484

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	0.429	J	mg/L		86	50 - 150
Sulfate	1.00	0.968		mg/L		97	50 - 150

Lab Sample ID: 380-43116-B-3 MS
Matrix: Water
Analysis Batch: 36484

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	110		62.5	173		mg/L		104	80 - 120
Sulfate	160		125	293		mg/L		106	80 - 120

Lab Sample ID: 380-43116-B-3 MSD
Matrix: Water
Analysis Batch: 36484

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	Limit
Chloride	110		62.5	174		mg/L		104	80 - 120	0	20
Sulfate	160		125	294		mg/L		107	80 - 120	0	20

Lab Sample ID: MB 380-36619/12
Matrix: Water
Analysis Batch: 36619

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	ug/L			04/12/23 23:18	1

Lab Sample ID: LCS 380-36619/13
Matrix: Water
Analysis Batch: 36619

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

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

Lab Sample ID: LCSD 380-36619/14
Matrix: Water
Analysis Batch: 36619

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Bromide	100	100		ug/L		100	90 - 110	0	10

QC Sample Results

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

Job ID: 380-43175-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 380-36619/11
Matrix: Water
Analysis Batch: 36619

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	5.00	5.44		ug/L		109	75 - 125

Lab Sample ID: 380-43153-E-1 MS
Matrix: Water
Analysis Batch: 36619

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	9.3		50.0	63.2		ug/L		108	80 - 120

Lab Sample ID: 380-43153-E-1 MSD
Matrix: Water
Analysis Batch: 36619

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	9.3		50.0	59.7		ug/L		101	80 - 120	6	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 380-36630/88
Matrix: Water
Analysis Batch: 36630

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1.0	mg/L			04/13/23 12:54	1
Magnesium	ND		0.10	mg/L			04/13/23 12:54	1
Potassium	ND		1.0	mg/L			04/13/23 12:54	1
Sodium	ND		1.0	mg/L			04/13/23 12:54	1

Lab Sample ID: LCS 380-36630/90
Matrix: Water
Analysis Batch: 36630

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	53.4		mg/L		107	85 - 115
Magnesium	20.0	21.2		mg/L		106	85 - 115
Potassium	20.0	21.5		mg/L		107	85 - 115
Sodium	50.0	53.0		mg/L		106	85 - 115

Lab Sample ID: LCSD 380-36630/91
Matrix: Water
Analysis Batch: 36630

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	51.9		mg/L		104	85 - 115	3	20
Magnesium	20.0	20.6		mg/L		103	85 - 115	3	20
Potassium	20.0	20.8		mg/L		104	85 - 115	3	20
Sodium	50.0	51.7		mg/L		103	85 - 115	2	20

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LLCS 380-36630/89
Matrix: Water
Analysis Batch: 36630

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	1.07		mg/L		107	50 - 150
Magnesium	0.100	0.101		mg/L		101	50 - 150
Potassium	1.00	0.763	J	mg/L		76	50 - 150
Sodium	1.00	1.10		mg/L		110	50 - 150

Lab Sample ID: 380-43118-A-1 MS
Matrix: Water
Analysis Batch: 36630

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	77		50.0	126		mg/L		100	70 - 130
Magnesium	28		20.0	48.6		mg/L		103	70 - 130
Potassium	5.6		20.0	28.7		mg/L		115	70 - 130
Sodium	56		50.0	106		mg/L		100	70 - 130

Lab Sample ID: 380-43118-A-1 MSD
Matrix: Water
Analysis Batch: 36630

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	77		50.0	126		mg/L		99	70 - 130	0	20
Magnesium	28		20.0	49.3		mg/L		106	70 - 130	1	20
Potassium	5.6		20.0	29.1		mg/L		117	70 - 130	1	20
Sodium	56		50.0	106		mg/L		100	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 380-36513/1-A
Matrix: Water
Analysis Batch: 36806

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 36513

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Arsenic	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Beryllium	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Cadmium	ND		0.50	ug/L		04/12/23 14:26	04/14/23 12:04	1
Chromium	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Copper	ND		2.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Lead	ND		0.50	ug/L		04/12/23 14:26	04/14/23 12:04	1
Nickel	ND		5.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Selenium	ND		5.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Silver	ND		0.50	ug/L		04/12/23 14:26	04/14/23 12:04	1
Thallium	ND		1.0	ug/L		04/12/23 14:26	04/14/23 12:04	1
Zinc	ND		20	ug/L		04/12/23 14:26	04/14/23 12:04	1

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 380-36513/3-A
Matrix: Water
Analysis Batch: 36806

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 36513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	49.2		ug/L		98	85 - 115
Arsenic	50.0	50.0		ug/L		100	85 - 115
Beryllium	25.0	24.2		ug/L		97	85 - 115
Cadmium	25.0	24.2		ug/L		97	85 - 115
Chromium	50.0	47.8		ug/L		96	85 - 115
Copper	50.0	48.7		ug/L		97	85 - 115
Lead	50.0	47.6		ug/L		95	85 - 115
Nickel	50.0	47.2		ug/L		94	85 - 115
Selenium	50.0	49.5		ug/L		99	85 - 115
Thallium	50.0	47.2		ug/L		94	85 - 115
Zinc	50.0	48.0		ug/L		96	85 - 115

Lab Sample ID: LCSD 380-36513/4-A
Matrix: Water
Analysis Batch: 36806

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 36513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	49.8		ug/L		100	85 - 115	1	20
Arsenic	50.0	50.3		ug/L		101	85 - 115	1	20
Beryllium	25.0	24.2		ug/L		97	85 - 115	0	20
Cadmium	25.0	24.7		ug/L		99	85 - 115	2	20
Chromium	50.0	48.3		ug/L		97	85 - 115	1	20
Copper	50.0	48.7		ug/L		97	85 - 115	0	20
Lead	50.0	49.0		ug/L		98	85 - 115	3	20
Nickel	50.0	47.5		ug/L		95	85 - 115	1	20
Selenium	50.0	49.8		ug/L		100	85 - 115	1	20
Thallium	50.0	48.4		ug/L		97	85 - 115	3	20
Zinc	50.0	48.3		ug/L		97	85 - 115	1	20

Lab Sample ID: LLCS 380-36513/2-A
Matrix: Water
Analysis Batch: 36806

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 36513

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	0.967	J	ug/L		97	50 - 150
Arsenic	1.00	0.882	J	ug/L		88	50 - 150
Beryllium	1.00	0.893	J	ug/L		89	50 - 150
Cadmium	0.500	0.474	J	ug/L		95	50 - 150
Chromium	1.00	ND		ug/L		76	50 - 150
Copper	2.00	1.97	J	ug/L		98	50 - 150
Lead	0.500	0.459	J	ug/L		92	50 - 150
Nickel	5.00	4.66	J	ug/L		93	50 - 150
Selenium	5.00	4.82	J	ug/L		96	50 - 150
Silver	0.500	0.349	J	ug/L		70	50 - 150
Thallium	1.00	0.923	J	ug/L		92	50 - 150
Zinc	20.0	19.4	J	ug/L		97	50 - 150

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 380-43136-M-1-B MS
Matrix: Water
Analysis Batch: 36806

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 36513

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Antimony	ND		50.0	53.0		ug/L		106	70 - 130	
Arsenic	ND		50.0	52.6		ug/L		105	70 - 130	
Beryllium	ND		25.0	24.3		ug/L		97	70 - 130	
Cadmium	ND		25.0	24.7		ug/L		99	70 - 130	
Chromium	1.4		50.0	49.7		ug/L		97	70 - 130	
Copper	15		50.0	59.6		ug/L		89	70 - 130	
Lead	ND		50.0	46.9		ug/L		94	70 - 130	
Nickel	ND		50.0	46.8		ug/L		90	70 - 130	
Selenium	ND		50.0	51.5		ug/L		103	70 - 130	
Silver	ND	F2 *-	25.0	17.7		ug/L		70	70 - 130	
Thallium	ND		50.0	46.4		ug/L		93	70 - 130	
Zinc	ND		50.0	61.7		ug/L		91	70 - 130	

Lab Sample ID: 380-43136-M-1-C MSD
Matrix: Water
Analysis Batch: 36806

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 36513

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Antimony	ND		50.0	52.7		ug/L		105	70 - 130		1	20
Arsenic	ND		50.0	52.8		ug/L		106	70 - 130		0	20
Beryllium	ND		25.0	24.3		ug/L		97	70 - 130		0	20
Cadmium	ND		25.0	24.6		ug/L		98	70 - 130		0	20
Chromium	1.4		50.0	49.1		ug/L		95	70 - 130		1	20
Copper	15		50.0	59.4		ug/L		89	70 - 130		0	20
Lead	ND		50.0	47.8		ug/L		96	70 - 130		2	20
Nickel	ND		50.0	46.7		ug/L		90	70 - 130		0	20
Selenium	ND		50.0	51.5		ug/L		103	70 - 130		0	20
Silver	ND	F2 *-	25.0	25.9	F2	ug/L		103	70 - 130		38	20
Thallium	ND		50.0	47.5		ug/L		95	70 - 130		2	20
Zinc	ND		50.0	61.6		ug/L		91	70 - 130		0	20

Lab Sample ID: MB 380-37776/1-A
Matrix: Water
Analysis Batch: 37920

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 37776

Analyte	MB	MB	RL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier								
Antimony	ND		1.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Arsenic	ND		1.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Beryllium	ND		1.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Cadmium	ND		0.50	ug/L		04/24/23 12:31	04/25/23 11:04			1
Chromium	ND		1.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Copper	ND		2.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Lead	ND		0.50	ug/L		04/24/23 12:31	04/25/23 11:04			1
Nickel	ND		5.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Selenium	ND		5.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Silver	ND		0.50	ug/L		04/24/23 12:31	04/25/23 11:04			1
Thallium	ND		1.0	ug/L		04/24/23 12:31	04/25/23 11:04			1
Zinc	ND		20	ug/L		04/24/23 12:31	04/25/23 11:04			1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 380-37776/3-A
Matrix: Water
Analysis Batch: 37920

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 37776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	50.5		ug/L		101	85 - 115
Arsenic	50.0	53.2		ug/L		106	85 - 115
Beryllium	25.0	24.9		ug/L		100	85 - 115
Cadmium	25.0	25.3		ug/L		101	85 - 115
Chromium	50.0	51.2		ug/L		102	85 - 115
Copper	50.0	51.8		ug/L		104	85 - 115
Lead	50.0	50.9		ug/L		102	85 - 115
Nickel	50.0	50.1		ug/L		100	85 - 115
Selenium	50.0	51.8		ug/L		104	85 - 115
Silver	25.0	24.8		ug/L		99	85 - 115
Thallium	50.0	50.9		ug/L		102	85 - 115
Zinc	50.0	50.8		ug/L		102	85 - 115

Lab Sample ID: LCSD 380-37776/4-A
Matrix: Water
Analysis Batch: 37920

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 37776

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	50.4		ug/L		101	85 - 115	0	20
Arsenic	50.0	53.2		ug/L		106	85 - 115	0	20
Beryllium	25.0	24.8		ug/L		99	85 - 115	0	20
Cadmium	25.0	25.7		ug/L		103	85 - 115	2	20
Chromium	50.0	50.2		ug/L		100	85 - 115	2	20
Copper	50.0	51.5		ug/L		103	85 - 115	1	20
Lead	50.0	51.5		ug/L		103	85 - 115	1	20
Nickel	50.0	49.9		ug/L		100	85 - 115	0	20
Selenium	50.0	52.3		ug/L		105	85 - 115	1	20
Silver	25.0	25.2		ug/L		101	85 - 115	1	20
Thallium	50.0	51.0		ug/L		102	85 - 115	0	20
Zinc	50.0	50.6		ug/L		101	85 - 115	0	20

Lab Sample ID: LLCS 380-37776/2-A
Matrix: Water
Analysis Batch: 37920

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 37776

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	1.04		ug/L		104	50 - 150
Arsenic	1.00	0.870	J	ug/L		87	50 - 150
Beryllium	1.00	0.990	J	ug/L		99	50 - 150
Cadmium	0.500	0.547		ug/L		109	50 - 150
Chromium	1.00	0.862	J	ug/L		86	50 - 150
Copper	2.00	2.01		ug/L		101	50 - 150
Lead	0.500	0.529		ug/L		106	50 - 150
Nickel	5.00	5.00		ug/L		100	50 - 150
Selenium	5.00	5.18		ug/L		104	50 - 150
Silver	0.500	0.401	J	ug/L		80	50 - 150
Thallium	1.00	1.03		ug/L		103	50 - 150
Zinc	20.0	20.7		ug/L		103	50 - 150

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 380-44534-AA-1-B MS
Matrix: Water
Analysis Batch: 37920

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 37776

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		50.0	53.9		ug/L		108	70 - 130
Arsenic	ND		50.0	54.2		ug/L		108	70 - 130
Beryllium	ND		25.0	25.5		ug/L		102	70 - 130
Cadmium	ND		25.0	25.6		ug/L		102	70 - 130
Chromium	ND		50.0	50.2		ug/L		100	70 - 130
Copper	ND		50.0	47.1		ug/L		93	70 - 130
Lead	ND		50.0	49.6		ug/L		99	70 - 130
Nickel	ND		50.0	49.2		ug/L		93	70 - 130
Selenium	ND		50.0	55.6		ug/L		105	70 - 130
Silver	ND		25.0	24.3		ug/L		96	70 - 130
Thallium	ND		50.0	48.9		ug/L		98	70 - 130
Zinc	ND		50.0	47.7		ug/L		95	70 - 130

Lab Sample ID: 380-44534-AA-1-C MSD
Matrix: Water
Analysis Batch: 37920

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 37776

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		50.0	53.4		ug/L		107	70 - 130	1	20
Arsenic	ND		50.0	53.6		ug/L		107	70 - 130	1	20
Beryllium	ND		25.0	25.3		ug/L		101	70 - 130	1	20
Cadmium	ND		25.0	25.1		ug/L		100	70 - 130	2	20
Chromium	ND		50.0	49.4		ug/L		99	70 - 130	2	20
Copper	ND		50.0	46.6		ug/L		92	70 - 130	1	20
Lead	ND		50.0	48.6		ug/L		97	70 - 130	2	20
Nickel	ND		50.0	48.8		ug/L		92	70 - 130	1	20
Selenium	ND		50.0	55.0		ug/L		103	70 - 130	1	20
Silver	ND		25.0	24.9		ug/L		98	70 - 130	2	20
Thallium	ND		50.0	48.5		ug/L		97	70 - 130	1	20
Zinc	ND		50.0	47.5		ug/L		95	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 810-55820/1-A
Matrix: Water
Analysis Batch: 55868

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 55820

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.10	ug/L		04/18/23 15:40	04/18/23 18:15	1

Lab Sample ID: LCS 810-55820/3-A
Matrix: Water
Analysis Batch: 55868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 55820

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	1.00	0.965		ug/L		96	85 - 115

QC Sample Results

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

Job ID: 380-43175-1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 810-58860-J-1-E MS
Matrix: Water
Analysis Batch: 55868

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 55820

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	1.08		ug/L		108	70 - 130

Lab Sample ID: 810-58860-J-1-F MSD
Matrix: Water
Analysis Batch: 55868

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 55820

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	ND		1.00	1.01		ug/L		101	70 - 130	7	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 380-36870/1
Matrix: Water
Analysis Batch: 36870

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
A kalinity	ND		2.0	mg/L			04/13/23 11:45	1
Bicarbonate Alkalinity as CaCO3	2.18	B	2.0	mg/L			04/13/23 11:45	1
Carbonate Alkalinity as CaCO3	ND		2.0	mg/L			04/13/23 11:45	1

Lab Sample ID: LCS 380-36870/3
Matrix: Water
Analysis Batch: 36870

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	100	95.6		mg/L		96	90 - 110

Lab Sample ID: LCSD 380-36870/18
Matrix: Water
Analysis Batch: 36870

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
A kalinity	100	96.3		mg/L		96	90 - 110	1	20

Lab Sample ID: LLCS 380-36870/4
Matrix: Water
Analysis Batch: 36870

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: MRL 380-36870/2
Matrix: Water
Analysis Batch: 36870

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
A kalinity	2.00	1.95	J	mg/L		98	50 - 150

QC Sample Results

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

Job ID: 380-43175-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 380-43411-AB-3 MS
Matrix: Water
Analysis Batch: 36870

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
A kalinity	180	F1	100	261	F1	mg/L		79	80 - 120

Lab Sample ID: 380-43411-AB-3 MSD
Matrix: Water
Analysis Batch: 36870

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
A kalinity	180	F1	100	261		mg/L		80	80 - 120	0	20

Lab Sample ID: 380-43411-AB-3 DU
Matrix: Water
Analysis Batch: 36870

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
A kalinity	180	F1	182		mg/L		0.3	20
Bicarbonate Alkalinity as CaCO3	180	B ^2	182	B	mg/L		1	20
Carbonate Alkalinity as CaCO3	2.0		ND		mg/L		NC	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 380-36873/2
Matrix: Water
Analysis Batch: 36873

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		2.0	umhos/cm			04/13/23 11:45	1

Lab Sample ID: LCS 380-36873/4
Matrix: Water
Analysis Batch: 36873

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

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

Lab Sample ID: LCSD 380-36873/16
Matrix: Water
Analysis Batch: 36873

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	994		umhos/cm		99	90 - 110	1	10

Lab Sample ID: MRL 380-36873/3
Matrix: Water
Analysis Batch: 36873

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

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

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 380-43411-AB-3 DU
Matrix: Water
Analysis Batch: 36873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	790		789		umhos/cm		0.08	20

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

Lab Sample ID: MB 380-36824/1
Matrix: Water
Analysis Batch: 36824

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	mg/L			04/15/23 00:05	1

Lab Sample ID: HLCS 380-36824/5
Matrix: Water
Analysis Batch: 36824

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	702		mg/L		100	80 - 114

Lab Sample ID: LCS 380-36824/4
Matrix: Water
Analysis Batch: 36824

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	175	186		mg/L		106	80 - 114

Lab Sample ID: MRL 380-36824/2
Matrix: Water
Analysis Batch: 36824

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	10.0		mg/L		100	50 - 150

Lab Sample ID: MRL 380-36824/3
Matrix: Water
Analysis Batch: 36824

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	11.0		mg/L		110	50 - 150

Lab Sample ID: 380-43626-W-1 DU
Matrix: Water
Analysis Batch: 36824

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	490		492		mg/L		1	10

QC Sample Results

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

Job ID: 380-43175-1

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-36869/6
Matrix: Water
Analysis Batch: 36869

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050	mg/L			04/13/23 12:35	1

Lab Sample ID: LCS 380-36869/8
Matrix: Water
Analysis Batch: 36869

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	1.02		mg/L		102	90 - 110

Lab Sample ID: LCSD 380-36869/9
Matrix: Water
Analysis Batch: 36869

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 380-36869/7
Matrix: Water
Analysis Batch: 36869

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	0.0480	J	mg/L		96	50 - 150

Lab Sample ID: 380-43175-1 MS
Matrix: Water
Analysis Batch: 36869

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
Fluoride	ND		1.00	1.05		mg/L		102	80 - 120

Lab Sample ID: 380-43175-1 MSD
Matrix: Water
Analysis Batch: 36869

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
Fluoride	ND		1.00	1.06		mg/L		102	80 - 120	0	20

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-36875/4
Matrix: Water
Analysis Batch: 36875

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.1			SU			04/13/23 11:45	1

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: LCS 380-36875/5
Matrix: Water
Analysis Batch: 36875

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 380-36875/17
Matrix: Water
Analysis Batch: 36875

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: 380-43411-AB-3 DU
Matrix: Water
Analysis Batch: 36875

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.3		8.3		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 380-36773/1
Matrix: Water
Analysis Batch: 36773

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.050	mg/L			04/14/23 15:00	1

Lab Sample ID: LCS 380-36773/4
Matrix: Water
Analysis Batch: 36773

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	0.265		mg/L		106	90 - 110

Lab Sample ID: LCSD 380-36773/10
Matrix: Water
Analysis Batch: 36773

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	0.250	0.263		mg/L		105	90 - 110	1	20

Lab Sample ID: MRL 380-36773/2
Matrix: Water
Analysis Batch: 36773

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	0.0520		mg/L		104	50 - 150

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: MRL 380-36773/9
Matrix: Water
Analysis Batch: 36773

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	0.0520		mg/L		104	50 - 150

Lab Sample ID: 380-43175-1 MS
Matrix: Water
Analysis Batch: 36773

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
Sulfide	ND	F1	0.250	0.160	F1	mg/L		64	80 - 120

Lab Sample ID: 380-43175-1 MSD
Matrix: Water
Analysis Batch: 36773

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
Sulfide	ND	F1	0.250	0.161	F1	mg/L		64	80 - 120	1	20

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

Lab Sample ID: 105080-B1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 00:47	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 00:47	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 00:47	1
Acenaphthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Acenaphthylene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Anthracene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Biphenyl	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Chrysene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Dibenzothiophene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 00:47	1
Fluoranthene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Fluorene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 105080-B1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Perylene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Phenanthrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/05/23 00:47	1
Pyrene	ND		0.005	0.001	µg/L		04/13/23 00:00	05/05/23 00:47	1
Surrogate	Blank %Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	73		27 - 133				04/13/23 00:00	05/05/23 00:47	1
(d10-Phenanthrene)	76		43 - 129				04/13/23 00:00	05/05/23 00:47	1
(d12-Chrysene)	65		52 - 144				04/13/23 00:00	05/05/23 00:47	1
(d12-Perylene)	82		36 - 161				04/13/23 00:00	05/05/23 00:47	1
(d8-Naphthalene)	54		25 - 125				04/13/23 00:00	05/05/23 00:47	1

Lab Sample ID: 105080-B1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2-Chlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
2-Methylphenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
2-Nitroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
2-Nitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
3-Nitroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
4-Chloroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
4-Nitroaniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
4-Nitrophenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
Aniline	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Benzidine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Benzoic Acid	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Dibenzofuran	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Hexachloroethane	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Nitrobenzene	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 105080-B1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Pentachlorophenol	ND		0.1	0.05	µg/L		04/13/23 00:00	05/11/23 08:58	1
Phenol	ND		0.2	0.1	µg/L		04/13/23 00:00	05/11/23 08:58	1
Surrogate	%Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	50		30 - 130				04/13/23 00:00	05/11/23 08:58	1
(d5-Phenol)	57		0 - 130				04/13/23 00:00	05/11/23 08:58	1

Lab Sample ID: 105080-BS1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	0.5	0.29		µg/L		58	31 - 128
1-Methylphenanthrene	0.5	0.374		µg/L		75	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.344		µg/L		69	55 - 122
2,6-Dimethylnaphthalene	0.5	0.301		µg/L		60	48 - 120
2,6-Di-tert-butyl-4-methylphenol	1	0.58		µg/L		58	50 - 150
2,6-Di-tert-butylphenol	1	0.558		µg/L		56	50 - 150
2-Methylnaphthalene	1.5	0.728		µg/L		49	47 - 130
6-tert-butyl-2,4-dimethylphenol	1	0.508		µg/L		51	50 - 150
Acenaphthene	1.5	1.03		µg/L		69	53 - 131
Acenaphthylene	1.5	0.941		µg/L		63	43 - 140
Anthracene	1.5	1.23		µg/L		82	58 - 135
Benz[a]anthracene	1.5	0.994		µg/L		66	55 - 145
Benzo[a]pyrene	1.5	1.27		µg/L		85	51 - 143
Benzo[b]fluoranthene	1.5	1.25		µg/L		83	46 - 165
Benzo[e]pyrene	0.5	0.355		µg/L		71	42 - 152
Benzo[g,h,i]perylene	1.5	1.35		µg/L		90	63 - 133
Benzo[k]fluoranthene	1.5	1.38		µg/L		92	56 - 145
Biphenyl	0.5	0.285		µg/L		57	56 - 119
Chrysene	1.5	1.02		µg/L		68	56 - 141
Dibenz[a,h]anthracene	1.5	1.58		µg/L		105	55 - 150
Dibenzo[a,l]pyrene	0.5	0.248		µg/L		50	50 - 150
Dibenzothiophene	0.5	0.38		µg/L		76	46 - 126
Disalicylidenepropanediamine	50	40.4		µg/L		81	50 - 150
Fluoranthene	1.5	1.48		µg/L		99	60 - 146
Fluorene	1.5	1.04		µg/L		69	58 - 131
Indeno[1,2,3-cd]pyrene	1.5	1.41		µg/L		94	50 - 151
Naphthalene	1.5	0.706		µg/L		47	41 - 126
Perylene	0.5	0.4		µg/L		80	48 - 141
Phenanthrene	1.5	1.21		µg/L		81	67 - 127
p-tert-Butylphenol	1	0.816		µg/L		82	50 - 150
Pyrene	1.5	1.52		µg/L		101	54 - 156
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
(d10-Acenaphthene)	54		27 - 133				
(d10-Phenanthrene)	71		43 - 129				

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 105080-BS1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41042_P

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
(d12-Chrysene)	63		52 - 144
(d12-Perylene)	81		36 - 161
(d8-Naphthalene)	53		25 - 125

Lab Sample ID: 105080-BS1
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4,6-Trichlorophenol	1	0.914		µg/L		91	30 - 130
2,4-Dichlorophenol	1	0.77		µg/L		77	51 - 117
2,4-Dinitrophenol	1	1.07		µg/L		107	0 - 152
2,6-Dichlorophenol	1	0.405		µg/L		41	30 - 130
2-Chloronaphthalene	1	0.79		µg/L		79	53 - 130
2-Chlorophenol	1	0.657		µg/L		66	41 - 120
2-Methyl-4,6-dinitrophenol	1	0.999		µg/L		100	0 - 141
2-Methylphenol	1	0.641		µg/L		64	40 - 117
2-Nitroaniline	1	0.968		µg/L		97	69 - 114
2-Nitrophenol	1	0.699		µg/L		70	40 - 117
3+4-Methylphenol	1	0.81		µg/L		81	0 - 130
3-Nitroaniline	1	0.978		µg/L		98	23 - 137
4-Bromophenylphenyl ether	1	0.53		µg/L		53	61 - 132
4-Chloro-3-methylphenol	1	0.862		µg/L		86	51 - 128
4-Chloroaniline	1	0.512		µg/L		51	50 - 150
4-Chlorophenylphenyl ether	1	0.848		µg/L		85	63 - 130
4-Nitroaniline	1	0.99		µg/L		99	10 - 159
4-Nitrophenol	1	0.817		µg/L		82	10 - 164
Aniline	1	0.726		µg/L		73	50 - 150
Benzidine	1	0		µg/L		0	0 - 125
Benzoic Acid	1	1.01		µg/L		101	2 - 145
Benzyl Alcohol	1	0.79		µg/L		79	43 - 148
Bis(2-Chloroethoxy) methane	1	0.806		µg/L		81	66 - 122
Bis(2-Chloroethyl) ether	1	0.59		µg/L		59	43 - 127
Bis(2-Chloroisopropyl) ether	1	0.916		µg/L		92	49 - 128
Dibenzofuran	1	0.837		µg/L		84	50 - 150
Hexachloroethane	1	0.628		µg/L		63	27 - 130
Nitrobenzene	1	0.734		µg/L		73	54 - 111
N-Nitrosodi-n-propylamine	1	0.846		µg/L		85	61 - 152
N-Nitrosodiphenylamine	1	0.927		µg/L		93	49 - 142
Pentachlorophenol	1	0.954		µg/L		95	36 - 111
Phenol	1	0.575		µg/L		57	29 - 114

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
(2,4,6-Tribromophenol)	54		30 - 130
(d5-Phenol)	58		0 - 130

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 105080-BS2
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.376		µg/L		75	31 - 128	26	30
1-Methylphenanthrene	0.5	0.387		µg/L		77	66 - 127	3	30
2,3,5-Trimethylnaphthalene	0.5	0.374		µg/L		75	55 - 122	8	30
2,6-Dimethylnaphthalene	0.5	0.337		µg/L		67	48 - 120	11	30
2,6-Di-tert-butyl-4-methylphenol	1	0.585		µg/L		59	50 - 150	2	30
2,6-Di-tert-butylphenol	1	0.588		µg/L		59	50 - 150	5	30
2-Methylnaphthalene	1.5	0.93		µg/L		62	47 - 130	23	30
6-tert-butyl-2,4-dimethylphenol	1	0.566		µg/L		57	50 - 150	11	30
Acenaphthene	1.5	1.21		µg/L		81	53 - 131	16	30
Acenaphthylene	1.5	1.22		µg/L		81	43 - 140	25	30
Anthracene	1.5	1.24		µg/L		83	58 - 135	1	30
Benz[a]anthracene	1.5	1.05		µg/L		70	55 - 145	6	30
Benzo[a]pyrene	1.5	1.28		µg/L		85	51 - 143	0	30
Benzo[b]fluoranthene	1.5	1.32		µg/L		88	46 - 165	6	30
Benzo[e]pyrene	0.5	0.364		µg/L		73	42 - 152	3	30
Benzo[g,h,i]perylene	1.5	1.37		µg/L		91	63 - 133	1	30
Benzo[k]fluoranthene	1.5	1.33		µg/L		89	56 - 145	3	30
Biphenyl	0.5	0.271		µg/L		54	56 - 119	5	30
Chrysene	1.5	1.11		µg/L		74	56 - 141	8	30
Dibenz[a,h]anthracene	1.5	1.79		µg/L		119	55 - 150	12	30
Dibenzo[a,l]pyrene	0.5	0.293		µg/L		59	50 - 150	17	30
Dibenzothiophene	0.5	0.388		µg/L		78	46 - 126	3	30
Disalicylidenepropanediamine	50	44.8		µg/L		90	50 - 150	11	30
Fluoranthene	1.5	1.43		µg/L		95	60 - 146	4	30
Fluorene	1.5	1.25		µg/L		83	58 - 131	18	30
Indeno[1,2,3-cd]pyrene	1.5	1.53		µg/L		102	50 - 151	8	30
Naphthalene	1.5	0.91		µg/L		61	41 - 126	26	30
Perylene	0.5	0.346		µg/L		69	48 - 141	15	30
Phenanthrene	1.5	1.19		µg/L		79	67 - 127	2	30
p-tert-Butylphenol	1	1.04		µg/L		104	50 - 150	8	30
Pyrene	1.5	1.39		µg/L		93	54 - 156	8	30

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	73		27 - 133
(d10-Phenanthrene)	76		43 - 129
(d12-Chrysene)	68		52 - 144
(d12-Perylene)	77		36 - 161
(d8-Naphthalene)	62		25 - 125

Lab Sample ID: 105080-BS2
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	1	0.891		µg/L		89	30 - 130	4	30
2,4,6-Trichlorophenol	1	0.929		µg/L		93	30 - 130	2	30
2,4-Dichlorophenol	1	0.871		µg/L		87	51 - 117	12	30
2,4-Dinitrophenol	1	0.955		µg/L		95	0 - 152	11	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 105080-BS2
Matrix: BlankMatrix
Analysis Batch: O-41042

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-41042_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
2,6-Dichlorophenol	1	0.427		µg/L		43	30 - 130	7	30	
2-Chloronaphthalene	1	0.831		µg/L		83	53 - 130	5	30	
2-Chlorophenol	1	0.715		µg/L		71	41 - 120	9	30	
2-Methyl-4,6-dinitrophenol	1	0.941		µg/L		94	0 - 141	6	30	
2-Methylphenol	1	0.718		µg/L		72	40 - 117	12	30	
2-Nitroaniline	1	1.02		µg/L		102	69 - 114	5	30	
2-Nitrophenol	1	0.786		µg/L		79	40 - 117	12	30	
3+4-Methylphenol	1	0.898		µg/L		90	0 - 130	11	30	
3-Nitroaniline	1	1.03		µg/L		103	23 - 137	5	30	
4-Bromophenylphenyl ether	1	0.532		µg/L		53	61 - 132	0	30	
4-Chloro-3-methylphenol	1	0.911		µg/L		91	51 - 128	6	30	
4-Chloroaniline	1	0.675		µg/L		68	50 - 150	29	30	
4-Chlorophenylphenyl ether	1	0.873		µg/L		87	63 - 130	2	30	
4-Nitroaniline	1	1.02		µg/L		102	10 - 159	3	30	
4-Nitrophenol	1	0.846		µg/L		85	10 - 164	4	30	
Aniline	1	0.792		µg/L		79	50 - 150	8	30	
Benzidine	1	0		µg/L		0	0 - 125	0	30	
Benzoic Acid	1	0.919		µg/L		92	2 - 145	9	30	
Benzyl Alcohol	1	0.912		µg/L		91	43 - 148	14	30	
Bis(2-Chloroethoxy) methane	1	0.894		µg/L		89	66 - 122	9	30	
Bis(2-Chloroethyl) ether	1	0.649		µg/L		65	43 - 127	10	30	
Bis(2-Chloroisopropyl) ether	1	0.854		µg/L		85	49 - 128	8	30	
Dibenzofuran	1	0.878		µg/L		88	50 - 150	5	30	
Hexachloroethane	1	0.654		µg/L		65	27 - 130	3	30	
Nitrobenzene	1	0.808		µg/L		81	54 - 111	10	30	
N-Nitrosodi-n-propylamine	1	0.925		µg/L		93	61 - 152	8	30	
N-Nitrosodiphenylamine	1	0.948		µg/L		95	49 - 142	2	30	
Pentachlorophenol	1	0.858		µg/L		86	36 - 111	10	30	
Phenol	1	0.635		µg/L		63	29 - 114	10	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(2,4,6-Tribromophenol)	54		30 - 130
(d5-Phenol)	64		0 - 130

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23MED003WB
Matrix: WATER
Analysis Batch: 23MED003W

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			04/14/23 12:36	1

Lab Sample ID: 23MED003WL
Matrix: WATER
Analysis Batch: 23MED003W

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	9810		ug/L		98	60 - 130	

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23D125-01M
Matrix: WATER
Analysis Batch: 23MED003W

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	9070		ug/L		91	60 - 130

Lab Sample ID: 23D125-01S
Matrix: WATER
Analysis Batch: 23MED003W

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	10200		ug/L		102	60 - 130	12	30

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

Lab Sample ID: 23VGH7D08B
Matrix: WATER
Analysis Batch: 23VGH7D08

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			04/13/23 12:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE					04/13/23 12:43	1

Lab Sample ID: 23VGH7D08L
Matrix: WATER
Analysis Batch: 23VGH7D08

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.500	0.465		mg/L		93	60 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOFLUOROBENZENE	107		70 - 130

Lab Sample ID: 23D125-01M
Matrix: WATER
Analysis Batch: 23VGH7D08

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	ND		0.500	0.454		mg/L		91	50 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
BROMOFLUOROBENZENE	109		60 - 140

Lab Sample ID: 23D125-01S
Matrix: WATER
Analysis Batch: 23VGH7D08

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.500	0.473		mg/L		95	50 - 130	4	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 23D125-01S
Matrix: WATER
Analysis Batch: 23VGH7D08

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

Surrogate	MSD %Recovery	MSD Qualifier	Limits
BROMOFLUOROBENZENE	113		60 - 140

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

Lab Sample ID: 23DSD016WB
Matrix: WATER
Analysis Batch: 23DSD016W

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			04/14/23 15:52	1
JP5	ND	U	0.050		mg/L			04/14/23 15:52	1
JP8	ND	U	0.050		mg/L			04/14/23 15:52	1
MOTOR OIL	ND	U	0.050		mg/L			04/14/23 15:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					04/14/23 15:52	1
HEXACOSANE					04/14/23 15:52	1

Lab Sample ID: 23DSD016WL
Matrix: WATER
Analysis Batch: 23DSD016W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.50	2.17		mg/L		87	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	70		60 - 130
HEXACOSANE	101		60 - 130

Lab Sample ID: 23J5D016WL
Matrix: WATER
Analysis Batch: 23DSD016W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.50	2.05		mg/L		82	30 - 160

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	91		60 - 130
HEXACOSANE	101		60 - 130

Lab Sample ID: 23J8D016WL
Matrix: WATER
Analysis Batch: 23DSD016W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP8	2.50	2.48		mg/L		99	30 - 160

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-43175-1

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

Lab Sample ID: 23J8D016WL
Matrix: WATER
Analysis Batch: 23DSD016W

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

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	98		60 - 130
HEXACOSANE	97		60 - 130

Lab Sample ID: 23D125-01M
Matrix: WATER
Analysis Batch: 23DSD016W

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MS</i> <i>Result</i>	<i>MS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
DIESEL	ND		2.53	2.30		mg/L		91	50 - 130

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	74		60 - 130
HEXACOSANE	110		60 - 130

Lab Sample ID: 23D125-01M
Matrix: WATER
Analysis Batch: 23DSD016W

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MS</i> <i>Result</i>	<i>MS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
JP5	ND		2.72	2.18		mg/L		80	30 - 160

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	84		60 - 130
HEXACOSANE	103		60 - 130

Lab Sample ID: 23D125-01S
Matrix: WATER
Analysis Batch: 23DSD016W

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>	<i>RPD</i> <i>RPD</i>	<i>Limit</i>
DIESEL	ND		2.50	1.90		mg/L		76	50 - 130	19	30

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	63		60 - 130
HEXACOSANE	102		60 - 130

Lab Sample ID: 23D125-01S
Matrix: WATER
Analysis Batch: 23DSD016W

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

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>	<i>RPD</i> <i>RPD</i>	<i>Limit</i>
JP5	ND		2.75	2.06		mg/L		75	30 - 160	6	30

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
BROMOBENZENE	71		60 - 130
HEXACOSANE	95		60 - 130

QC Association Summary

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

Job ID: 380-43175-1

GC/MS VOA

Analysis Batch: 36882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-43175-2	TB: MOANALUA WELLS	Total/NA	Water	524.2	
MB 380-36882/5	Method Blank	Total/NA	Water	524.2	
LCS 380-36882/3	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-36882/4	Lab Control Sample Dup	Total/NA	Water	524.2	

Analysis Batch: 37072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-43175-2	TB: MOANALUA WELLS	Total/NA	Water	524.2	

Analysis Batch: 37140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	524.2	
380-43175-2	TB: MOANALUA WELLS	Total/NA	Water	524.2	
MB 380-37140/11	Method Blank	Total/NA	Water	524.2	
LCS 380-37140/8	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-37140/9	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-37140/10	Lab Control Sample	Total/NA	Water	524.2	

GC/MS Semi VOA

Prep Batch: 56418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	525.2	
MB 810-56418/2-A	Method Blank	Total/NA	Water	525.2	
LCS 810-56418/1-A	Lab Control Sample	Total/NA	Water	525.2	
LLCS 810-56418/3-A	Lab Control Sample	Total/NA	Water	525.2	
810-59613-F-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-43475-K-2-A DU	Duplicate	Total/NA	Water	525.2	

Prep Batch: 56423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LLCS 810-56423/3-A	Lab Control Sample	Total/NA	Water	525.2	

Analysis Batch: 56545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	525.2 LL	56418
MB 810-56418/2-A	Method Blank	Total/NA	Water	525.2 LL	56418
LCS 810-56418/1-A	Lab Control Sample	Total/NA	Water	525.2 LL	56418
LLCS 810-56418/3-A	Lab Control Sample	Total/NA	Water	525.2 LL	56418
LLCS 810-56423/3-A	Lab Control Sample	Total/NA	Water	525.2 LL	56423
810-59613-F-1-A MS	Matrix Spike	Total/NA	Water	525.2 LL	56418
380-43475-K-2-A DU	Duplicate	Total/NA	Water	525.2 LL	56418

GC Semi VOA

Prep Batch: 36679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	504.1	
380-43175-2	TB: MOANALUA WELLS	Total/NA	Water	504.1	
MBL 380-36679/4-A	Method Blank	Total/NA	Water	504.1	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-43175-1

GC Semi VOA (Continued)

Prep Batch: 36679 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 380-36679/3-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-36679/1-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-36679/2-A	Lab Control Sample	Total/NA	Water	504.1	
380-43143-T-1-A MS	Matrix Spike	Total/NA	Water	504.1	
380-43156-G-1-A DU	Duplicate	Total/NA	Water	504.1	

Analysis Batch: 36944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	504.1	36679
380-43175-2	TB: MOANALUA WELLS	Total/NA	Water	504.1	36679
MBL 380-36679/4-A	Method Blank	Total/NA	Water	504.1	36679
LCS 380-36679/3-A	Lab Control Sample	Total/NA	Water	504.1	36679
MRL 380-36679/1-A	Lab Control Sample	Total/NA	Water	504.1	36679
MRL 380-36679/2-A	Lab Control Sample	Total/NA	Water	504.1	36679
380-43143-T-1-A MS	Matrix Spike	Total/NA	Water	504.1	36679
380-43156-G-1-A DU	Duplicate	Total/NA	Water	504.1	36679

Prep Batch: 56104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	505	
MB 810-56104/1-A	Method Blank	Total/NA	Water	505	
LLCS 810-56104/2-A	Lab Control Sample	Total/NA	Water	505	
LLCS 810-56104/3-A	Lab Control Sample	Total/NA	Water	505	
810-59492-A-2-A MS	Matrix Spike	Total/NA	Water	505	
810-59510-I-1-A MS	Matrix Spike	Total/NA	Water	505	
810-59613-B-1-A DU	Duplicate	Total/NA	Water	505	

Analysis Batch: 56175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	505	56104
MB 810-56104/1-A	Method Blank	Total/NA	Water	505	56104
LLCS 810-56104/2-A	Lab Control Sample	Total/NA	Water	505	56104
LLCS 810-56104/3-A	Lab Control Sample	Total/NA	Water	505	56104
810-59492-A-2-A MS	Matrix Spike	Total/NA	Water	505	56104
810-59510-I-1-A MS	Matrix Spike	Total/NA	Water	505	56104
810-59613-B-1-A DU	Duplicate	Total/NA	Water	505	56104

HPLC/IC

Analysis Batch: 36483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-36483/4	Method Blank	Total/NA	Water	300.0	
LCS 380-36483/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-36483/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-36483/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-36483/6	Lab Control Sample	Total/NA	Water	300.0	
380-43116-B-3 MS	Matrix Spike	Total/NA	Water	300.0	
380-43116-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

QC Association Summary

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

Job ID: 380-43175-1

HPLC/IC

Analysis Batch: 36484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-36484/4	Method Blank	Total/NA	Water	300.0	
LCS 380-36484/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-36484/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-36484/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-36484/6	Lab Control Sample	Total/NA	Water	300.0	
380-43116-B-3 MS	Matrix Spike	Total/NA	Water	300.0	
380-43116-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 36619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	300.0	
MB 380-36619/12	Method Blank	Total/NA	Water	300.0	
LCS 380-36619/13	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-36619/14	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-36619/11	Lab Control Sample	Total/NA	Water	300.0	
380-43153-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
380-43153-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 36513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total Recoverable	Water	200.8	
MB 380-36513/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-36513/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-36513/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-36513/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-43136-M-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	
380-43136-M-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Analysis Batch: 36630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	200.7 Rev 4.4	
MB 380-36630/88	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-36630/90	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-36630/91	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-36630/89	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-43118-A-1 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-43118-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

Analysis Batch: 36806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total Recoverable	Water	200.8	36513
MB 380-36513/1-A	Method Blank	Total Recoverable	Water	200.8	36513
LCS 380-36513/3-A	Lab Control Sample	Total Recoverable	Water	200.8	36513
LCSD 380-36513/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	36513
LLCS 380-36513/2-A	Lab Control Sample	Total Recoverable	Water	200.8	36513
380-43136-M-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	36513
380-43136-M-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	36513

QC Association Summary

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

Job ID: 380-43175-1

Metals

Prep Batch: 37776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total Recoverable	Water	200.8	
MB 380-37776/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-37776/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-37776/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-37776/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-44534-AA-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	
380-44534-AA-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Analysis Batch: 37920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total Recoverable	Water	200.8	37776
MB 380-37776/1-A	Method Blank	Total Recoverable	Water	200.8	37776
LCS 380-37776/3-A	Lab Control Sample	Total Recoverable	Water	200.8	37776
LCSD 380-37776/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	37776
LLCS 380-37776/2-A	Lab Control Sample	Total Recoverable	Water	200.8	37776
380-44534-AA-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	37776
380-44534-AA-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	37776

Prep Batch: 55820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	245.1	
MB 810-55820/1-A	Method Blank	Total/NA	Water	245.1	
LCS 810-55820/3-A	Lab Control Sample	Total/NA	Water	245.1	
810-58860-J-1-E MS	Matrix Spike	Total/NA	Water	245.1	
810-58860-J-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 55868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	245.1	55820
MB 810-55820/1-A	Method Blank	Total/NA	Water	245.1	55820
LCS 810-55820/3-A	Lab Control Sample	Total/NA	Water	245.1	55820
810-58860-J-1-E MS	Matrix Spike	Total/NA	Water	245.1	55820
810-58860-J-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	55820

General Chemistry

Analysis Batch: 36773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	SM 4500 S2 D	
MB 380-36773/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-36773/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-36773/10	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-36773/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-36773/9	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-43175-1 MS	MOANALUA WELLS	Total/NA	Water	SM 4500 S2 D	
380-43175-1 MSD	MOANALUA WELLS	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 36824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	SM 2540C	
MB 380-36824/1	Method Blank	Total/NA	Water	SM 2540C	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-43175-1

General Chemistry (Continued)

Analysis Batch: 36824 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
HLCS 380-36824/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-36824/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-36824/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-36824/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-43626-W-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 36869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	SM 4500 F C	
MB 380-36869/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-36869/8	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-36869/9	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-36869/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-43175-1 MS	MOANALUA WELLS	Total/NA	Water	SM 4500 F C	
380-43175-1 MSD	MOANALUA WELLS	Total/NA	Water	SM 4500 F C	

Analysis Batch: 36870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	SM 2320B	
MB 380-36870/1	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-36870/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-36870/18	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-36870/4	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-36870/2	Lab Control Sample	Total/NA	Water	SM 2320B	
380-43411-AB-3 MS	Matrix Spike	Total/NA	Water	SM 2320B	
380-43411-AB-3 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 2320B	
380-43411-AB-3 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 36873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	SM 2510B	
MB 380-36873/2	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-36873/4	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-36873/16	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-36873/3	Lab Control Sample	Total/NA	Water	SM 2510B	
380-43411-AB-3 DU	Duplicate	Total/NA	Water	SM 2510B	

Analysis Batch: 36875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	SM 4500 H+ B	
MB 380-36875/4	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-36875/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-36875/17	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-43411-AB-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Subcontract

Analysis Batch: O-41042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	625 Acid/Base/PAH + TICs	O-41042_P

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-43175-1

Subcontract (Continued)

Analysis Batch: O-41042 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	625 Acid/Base/PAH + TICs	O-41042_P
105080-B1	Method Blank	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41042_P
105080-B1	Method Blank	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41042_P
105080-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41042_P
105080-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41042_P
105080-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41042_P
105080-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 Acid/Base/PAH + TICs	O-41042_P

Analysis Batch: 23DSD016W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	8015 LL DRO/MRO/JP5/J P8	
23DSD016WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSD016WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5D016WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8D016WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D125-01M	Matrix Spike	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D125-01M	Matrix Spike	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D125-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23D125-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23MED003W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	8015 Ethanol	
23MED003WB	Method Blank	Total/NA	WATER	8015 Ethanol	
23MED003WL	Lab Control Sample	Total/NA	WATER	8015 Ethanol	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-43175-1

Subcontract (Continued)

Analysis Batch: 23MED003W (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
23D125-01M	Matrix Spike	Total/NA	WATER	8015 Ethanol	
23D125-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Ethanol	

Analysis Batch: 23VGH7D08

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-43175-2	TB: MOANALUA WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VGH7D08B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VGH7D08L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23D125-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23D125-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-41042_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-43175-1	MOANALUA WELLS	Total/NA	Water	EPA_625	
380-43175-1	MOANALUA WELLS	Total/NA	Water	EPA_625	
105080-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
105080-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
105080-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
105080-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
105080-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	
105080-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-43175-1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-43175-1

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	37140	UKCP	EA POM	04/18/23 21:23
Total/NA	Analysis	524.2		1	36882	N4CJ	EA POM	04/17/23 01:43
Total/NA	Analysis	524.2		1	37072	N1R	EA POM	04/18/23 15:04
Total/NA	Prep	525.2			56418	AM	EA SB	04/24/23 09:11
Total/NA	Analysis	525.2 LL		1	56545	BC	EA SB	04/25/23 13:42
Total/NA	Prep	504.1			36679	K9GY	EA POM	04/14/23 13:00 - 04/14/23 13:46 ¹
Total/NA	Analysis	504.1		1	36944	K9GY	EA POM	04/14/23 21:37
Total/NA	Prep	505			56104	SS	EA SB	04/20/23 09:20 - 04/20/23 14:54 ¹
Total/NA	Analysis	505		1	56175	JV	EA SB	04/20/23 23:53
Total/NA	Analysis	300.0		2	36483	LM8C	EA POM	04/11/23 22:09
Total/NA	Analysis	300.0		2	36484	LM8C	EA POM	04/11/23 22:09
Total/NA	Analysis	300.0		1	36619	UNJR	EA POM	04/13/23 08:16
Total/NA	Analysis	200.7 Rev 4.4		1	36630	J9ZD	EA POM	04/13/23 13:18
Total Recoverable	Prep	200.8			36513	Z45W	EA POM	04/12/23 14:26
Total Recoverable	Analysis	200.8		1	36806	AAE8	EA POM	04/14/23 12:30
Total Recoverable	Prep	200.8			37776	NQM8	EA POM	04/24/23 12:31
Total Recoverable	Analysis	200.8		1	37920	AAE8	EA POM	04/25/23 11:45
Total/NA	Prep	245.1			55820	AC	EA SB	04/18/23 15:40
Total/NA	Analysis	245.1		1	55868	AC	EA SB	04/18/23 18:58
Total/NA	Analysis	SM 2320B		1	36870	D5MQ	EA POM	04/13/23 15:16
Total/NA	Analysis	SM 2510B		1	36873	D5MQ	EA POM	04/13/23 15:16
Total/NA	Analysis	SM 2540C		1	36824	XLG4	EA POM	04/15/23 00:05
Total/NA	Analysis	SM 4500 F C		1	36869	D5MQ	EA POM	04/13/23 13:54
Total/NA	Analysis	SM 4500 H+ B		1	36875	D5MQ	EA POM	04/13/23 15:16
Total/NA	Analysis	SM 4500 S2 D		1	36773	MH2L	EA POM	04/14/23 15:00
Total/NA	Prep	EPA_625		1	O-41042_P			04/13/23 00:00
Total/NA	Analysis	625 Acid/Base/PAH + TICs		1	O-41042_YC			05/05/23 05:59
Total/NA	Prep	EPA_625		1	O-41042_P			04/13/23 00:00
Total/NA	Analysis	625 Acid/Base/PAH + TICs		1	O-41042_YC			05/11/23 14:13
Total/NA	Analysis	8015 Ethanol		1	23MED003W	ASitu		04/14/23 13:19
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D08	SCerva		04/13/23 14:35
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSD016W	SDees		04/14/23 19:16

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	37140	UKCP	EA POM	04/18/23 21:47
Total/NA	Analysis	524.2		1	36882	N4CJ	EA POM	04/17/23 02:06

Eurofins Eaton Analytical Pomona

Lab Chronicle

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

Job ID: 380-43175-1

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-43175-2

Date Collected: 04/10/23 10:00

Matrix: Water

Date Received: 04/11/23 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	37072	N1R	EA POM	04/18/23 15:04
Total/NA	Prep	504.1			36679	K9GY	EA POM	04/14/23 13:00 - 04/14/23 13:46 ¹
Total/NA	Analysis	504.1		1	36944	K9GY	EA POM	04/14/23 22:07
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7D08	SCerva		04/13/23 16:28

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

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



Accreditation/Certification Summary

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

Job ID: 380-43175-1

Laboratory: Eurofins Eaton Analytical Pomona

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

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

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

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

Accreditation/Certification Summary

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

Job ID: 380-43175-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

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

Laboratory: Eurofins Eaton Analytical South Bend

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

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

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

Accreditation/Certification Summary

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

Job ID: 380-43175-1

Laboratory: Eurofins Eaton Analytical South Bend (Continued)

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

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

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



Method Summary

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

Job ID: 380-43175-1

Method	Method Description	Protocol	Laboratory
524.2	Total Trihalomethanes	EPA-DW	EA POM
524.2	Volatile Organic Compounds (GC/MS SIM)	EPA-DW	EA POM
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	EA POM
525.2 LL	Semivolatile Organic Compounds (GC/MS)	EPA	EA SB
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW2	EA POM
505	Organochlorine Pesticides/PCBs (GC)	EPA	EA SB
300.0	Anions, Ion Chromatography	EPA	EA POM
200.7 Rev 4.4	Metals (ICP)	EPA	EA POM
200.8	Metals (ICP/MS)	EPA	EA POM
245.1	Mercury (CVAA)	EPA	EA SB
SM 2320B	Alkalinity	SM	EA POM
SM 2510B	Conductivity, Specific Conductance	SM	EA POM
SM 2540C	Solids, Total Dissolved (TDS)	SM	EA POM
SM 4500 F C	Fluoride	SM	EA POM
SM 4500 H+ B	pH	SM	EA POM
SM 4500 S2 D	Sulfide, Total	SM	EA POM
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
200.8	Preparation, Total Recoverable Metals	EPA	EA POM
245.1	Preparation, Mercury	EPA	EA SB
504.1	Microextraction	EPA-DW	EA POM
505	Extraction, Organochlorine Pesticides/PCBs	EPA	EA SB
525.2	Extraction of Semivolatile Compounds	EPA	EA SB
None	Autocomplete Prep - Metals - No Digestion required	None	EA POM

Protocol References:

EPA = US Environmental Protection Agency

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

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

None = None

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

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

Laboratory References:

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

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

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

Sample Summary

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

Job ID: 380-43175-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-43175-1	MOANALUA WELLS	Water	04/10/23 10:00	04/11/23 10:00
380-43175-2	TB: MOANALUA WELLS	Water	04/10/23 10:00	04/11/23 10:00

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

EMAX
LABORATORIES, INC.
 3051 Fujita Street
 Torrance, CA 90505
 Tel: (310)-618-8889

Date: 05-16-2023
 EMAX Batch No.: 23D125

Attn: Jackie Contreras

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

Subject: Laboratory Report
 Project: 380-43175

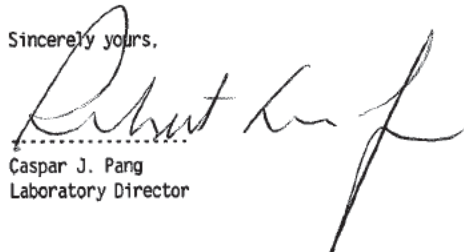
Enclosed is the Laboratory report for samples received on 04/12/23.
 The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-43175-1	D125-01	04/10/23	WATER	TPH GASOLINE TPH ETHANOL
380-43175-2	D125-02	04/10/23	WATER	TPH GASOLINE
380-43175-1MS	D125-01M	04/10/23	WATER	TPH GASOLINE ETHANOL TPH DIESEL TPH JP-5
380-43175-1MSD	D125-01S	04/10/23	WATER	TPH GASOLINE ETHANOL TPH DIESEL TPH JP-5

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

Chain of Custody Record



23D125

eurofins

Environment Testing

Client Information (Sub Contract Lab)

Client Contract:
Shipping/Receiving
Company:
EMAX Laboratories Inc
Address:
3051 Fujita Street,
City:
Torrance
State: CA, ZIP: 90505
Phone:
Email:
Project Name:
RED-HILL
Site:
Honolulu BWS Sites

Sampler:
Phone:
E-Mail:
Rachelle.Arada@eurofins.com
Lab P#:
Arada, Rachelle
Due Date Requested:
4/25/2023
TAT Requested (days):

Accreditations Required (See note):
State - Hawaii

Carrier Tracking No(s):
State of Origin:
Hawaii

COC No:
380-47631.1
Page 1 of 1
Job #:
380-43175-1

Analysis Requested

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

SUB (8015 Ethanol)/ 8015 Ethanol
SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)
SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8

Sample Identification - Client ID (Lab ID)
MOANALUA WELLS (380-43175-1)
TB: MOANALUA WELLS (380-43175-2)

Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Overhaul, BT=Trace, A=Air)	Preservation Code:
4/10/23	10:00		Water	
4/10/23	10:00		Water	

Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Ethanol)/ 8015 Ethanol	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	SUB (8015 LL DRO/MRO/JP5/JP8)/ 8015 LL DRO/MRO/JP5/JP8	Total Number of containers
	X		X	X	15
		X			2

Special Instructions/Note:
See Attached Instructions
See Attached Instructions
CF = -0.2
Temp. 20/1.8

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other institutions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____

Relinquished by: _____ Date/Time: 4-12-23 / 1618 Company: EAT Company

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____

Received by: _____ Date/Time: 04/12/23 16:10 Company: EMAX

Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: _____



REFERENCE: EMAX-SM02 Rev. 12
SAMPLE RECEIPT FORM 1

Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input checked="" type="checkbox"/> GSO <input type="checkbox"/> Others <input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery	Airbill / Tracking Number	ECN <u>23D125</u> Recipient <u>Mana Rivera</u> Date <u>04/12/23</u> Time <u>16:10</u>
--	---------------------------	---

COC INSPECTION

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

Note:

PACKAGING INSPECTION

Container	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition <u>correction</u>	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging <u>factor: -0.2</u>	<input type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler <u>2.0/1.8</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer: <u>A-S/N 21052760</u>	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<input type="checkbox"/> Cooler 10 _____ °C	<input type="checkbox"/> Cooler 9 _____ °C	<input type="checkbox"/> Cooler 10 _____ °C

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

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	5	D14		R4
1	1-3	D2	analysis on label: 504.1 - PREC, 505.11 - PREC	R1
2	14.17	D22	2nd date reads: 02/28/23	↓
<u>4/13/23</u>				
<u>4/14/23</u>				

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:

SAMPLE MATRIX IS DRINKING WATER? YES NO

- LEGEND:**
- | | | |
|---|---|---|
| Code Description-Sample Management | Code Description-Sample Management | Code Description-Sample Management |
| D1 Analysis is not indicated in _____ | D13 Out of Holding Time | R1 Proceed as indicated in <input checked="" type="checkbox"/> COC <input type="checkbox"/> Label |
| <u>D2</u> Analysis mismatch COC vs label | <u>D14</u> Bubble is >6mm | R2 Refer to attached instruction |
| D3 Sample ID mismatch COC vs label | D15 No trip blank in cooler | R3 Cancel the analysis |
| D4 Sample ID is not indicated in _____ | D16 Preservation not indicated in _____ | R4 Use vial with smallest bubble first |
| D5 Container -[improper] [leaking] [broken] | D17 Preservation mismatch COC vs label | R5 Log-in with latest sampling date and time+1 min |
| D6 Date/Time is not indicated in _____ | D18 Insufficient chemical preservative | R6 Adjust pH as necessary |
| D7 Date/Time mismatch COC vs label | D19 Insufficient Sample | R7 Filter and preserved as necessary |
| D8 Sample listed in COC is not received | D20 No filtration info for dissolved analysis | R8 _____ |
| D9 Sample received is not listed in COC | D21 No sample for moisture determination | R9 _____ |
| D10 No initial/date on corrections in COC/label | <u>D22</u> 2nd date on label is incorrect | R10 _____ |
| D11 Container count mismatch COC vs received | D23 _____ | R11 _____ |
| D12 Container size mismatch COC vs received | D24 _____ | R12 _____ |

REVIEWERS:

Sample Labeling Nandeen Nacana Replea SRF Replea
 Date 04/12/23 4/14/23 Date 4/12/23

REPORT ID: 23D125

Page 79 of 157

PM EA for RS
 Date 4/14/23
 Page 3 of 43
 6/6/2023

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

380-43175

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

SDG#: 23D125



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-43175

SDG : 23D125

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

A total of two(2) water samples were received on 04/12/23 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. VGH7D08B - 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. VGH7D08L/VGH7D08C 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 D125-01M/D125-01S. 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.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-43175

SDG NO. : 23D125
Instrument ID : H7

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes

WATER
 FN - Filename
 % Moist - Percent Moisture



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

SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 04/10/23 10:00
Project     : 380-43175                  Date Received: 04/12/23
Batch No.   : 23D125                     Date Extracted: 04/13/23 14:35
Sample ID   : 380-43175-1               Date Analyzed: 04/13/23 14:35
Lab Samp ID: D125-01                    Dilution Factor: 1
Lab File ID: AD13008A                   Matrix: WATER
Ext Btch ID: 23VGH7D08                  % Moisture: NA
Calib. Ref.: AD13004A                   Instrument ID: H7
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0310	0.0400	78	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: 04/10/23 10:00
Project     : 380-43175                  Date Received: 04/12/23
Batch No.   : 23D125                     Date Extracted: 04/13/23 16:28
Sample ID   : 380-43175-2               Date Analyzed: 04/13/23 16:28
Lab Samp ID : D125-02                   Dilution Factor: 1
Lab File ID : AD13011A                  Matrix: WATER
Ext Btch ID : 23VGH7D08                 % Moisture: NA
Calib. Ref.: AD13004A                   Instrument ID: H7
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
-----	-----	-----	-----	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
-----	-----	-----	-----	-----
Bromofluorobenzene	0.0353	0.0400	88	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

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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/13/23 12:43
Project	: 380-43175	Date Received:	04/13/23
Batch No.	: 23D125	Date Extracted:	04/13/23 12:43
Sample ID	: MBLK1W	Date Analyzed:	04/13/23 12:43
Lab Samp ID:	VGH7D08B	Dilution Factor:	1
Lab File ID:	AD13005A	Matrix:	WATER
Ext Btch ID:	23VGH7D08	% Moisture:	NA
Calib. Ref.:	AD13004A	Instrument ID:	H7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0353	0.0400	88	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 : 380-43175
BATCH NO. : 23D125
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7D08B	VGH7D08L	VGH7D08C
LAB FILE ID	: AD13005A	AD13006A	AD13007A
DATE PREPARED	: 04/13/23 12:43	04/13/23 13:20	04/13/23 13:58
DATE ANALYZED	: 04/13/23 12:43	04/13/23 13:20	04/13/23 13:58
PREP BATCH	: 23VGH7D08	23VGH7D08	23VGH7D08
CALIBRATION REF:	AD13004A	AD13004A	AD13004A

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	0.465	93	0.500	0.491	98	5	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0429	107	0.0400	0.0443	111	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 : 380-43175
BATCH NO. : 23D125
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-43175-1	380-43175-1MS	380-43175-1MSD
LAB SAMPLE ID	: D125-01	D125-01M	D125-01S
LAB FILE ID	: AD13008A	AD13009A	AD13010A
DATE PREPARED	: 04/13/23 14:35	04/13/23 15:13	04/13/23 15:50
DATE ANALYZED	: 04/13/23 14:35	04/13/23 15:13	04/13/23 15:50
PREP BATCH	: 23VGH7D08	23VGH7D08	23VGH7D08
CALIBRATION REF:	AD13004A	AD13004A	AD13004A

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	0.454	91	0.500	0.473	95	4	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0435	109	0.0400	0.0451	113	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-43175

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23D125



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-43175

SDG : 23D125

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 04/12/23 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. DSD016WB - 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. DSD016WL/DSD016WC 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 23D125-01M/23D125-01S. 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: 380-43175

SDG : 23D125

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 04/12/23 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. DSD016WB - 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. J5D016WL/J5D016WC 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 23D125-01M/23D125-01S. 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: 380-43175

SDG : 23D125

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 04/12/23 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. DSD016WB - 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. J8D016WL/J8D016WC 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.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
 Project : 380-43175
 SDG NO. : 23D125
 Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes

WATER
 FN - Filename
 % Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFIN S EATON ANALYTICAL
Project : 380-43175

SDG NO. : 23D125
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
380-43175-1	DSD016WB	1	NA	04/14/2315:52	04/13/2313:15	LD13078A	LD13073A	23DS0016W	Method Blank
380-43175-1MS	J5D016WL	1	NA	04/14/2316:48	04/13/2313:15	LD13081A	LD13073A	23DS0016W	Lab Control Sample (LCS)
380-43175-1MSD	J5D016WC	1	NA	04/14/2317:06	04/13/2313:15	LD13082A	LD13073A	23DS0016W	LCS Duplicate
	D125-01	1	NA	04/14/2319:16	04/13/2313:15	LD13089A	LD13073A	23DS0016W	Field Sample
	D125-01M	1	NA	04/14/2320:12	04/13/2313:15	LD13092A	LD13073A	23DS0016W	Matrix Spike Sample (MS)
	D125-01S	1	NA	04/14/2320:30	04/13/2313:15	LD13093A	LD13073A	23DS0016W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

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

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-43175
SDG NO. : 23D125
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
380-43175-1	DSD016WB	1	NA	04/14/2315:52	04/13/2313:15	LD13078A	LD13074A	23DSD016W	Method Blank
	J8D016WL	1	NA	04/14/2317:25	04/13/2313:15	LD13083A	LD13074A	23DSD016W	Lab Control Sample (LCS)
	J8D016WC	1	NA	04/14/2317:43	04/13/2313:15	LD13084A	LD13074A	23DSD016W	LCS Duplicate
	D125-01	1	NA	04/14/2319:16	04/13/2313:15	LD13089A	LD13074A	23DSD016W	Field Sample

FN - Filename
% Moist - Percent Moisture

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

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 04/10/23 10:00
Project : 380-43175	Date Received: 04/12/23
Batch No. : 23D125	Date Extracted: 04/13/23 13:15
Sample ID : 380-43175-1	Date Analyzed: 04/14/23 19:16
Lab Samp ID: 23D125-01	Dilution Factor: 1
Lab File ID: LD13089A	Matrix: WATER
Ext Btch ID: 23DSD016W	% Moisture: NA
Calib. Ref.: LD13072A	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	0.391	0.530	74	60-130
Hexacosane	0.119	0.132	90	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 : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/10/23 10:00
Project	: 380-43175	Date Received:	04/12/23
Batch No.	: 23D125	Date Extracted:	04/13/23 13:15
Sample ID	: 380-43175-1	Date Analyzed:	04/14/23 19:16
Lab Samp ID:	23D125-01	Dilution Factor:	1
Lab File ID:	LD13089A	Matrix:	WATER
Ext Btch ID:	23DSD016W	% Moisture:	NA
Calib. Ref.:	LD13073A	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	0.391	0.530	74	60-130
Hexacosane	0.119	0.132	90	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 : POrto

Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/10/23 10:00
Project	: 380-43175	Date Received:	04/12/23
Batch No.	: 23D125	Date Extracted:	04/13/23 13:15
Sample ID	: 380-43175-1	Date Analyzed:	04/14/23 19:16
Lab Samp ID:	23D125-01	Dilution Factor:	1
Lab File ID:	LD13089A	Matrix:	WATER
Ext Btch ID:	23DSD016W	% Moisture:	NA
Calib. Ref.:	LD13074A	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	0.391	0.530	74	60-130
Hexacosane	0.119	0.132	90	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 : POreto

Analyzed by : SDeeso

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

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 04/13/23 13:15
Project     : 380-43175                  Date Received: 04/13/23
Batch No.   : 23D125                     Date Extracted: 04/13/23 13:15
Sample ID   : MBLK1W                     Date Analyzed: 04/14/23 15:52
Lab Samp ID: DSD016WB                    Dilution Factor: 1
Lab File ID: LD13078A                     Matrix: WATER
Ext Btch ID: 23DSD016W                    % Moisture: NA
Calib. Ref.: LD13072A                     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	0.424	0.500	85	60-130
Hexacosane	0.125	0.125	100	60-130

Notes:

```

Parameter      H-C Range
Diesel          C10-C24
Motor Oil       C24-C36

```

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

```

Sample Amount   : 1000ml                Final Volume : 5ml
Prepared by     : P0reto                  Analyzed by  : SDeeso

```

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-43175
BATCH NO. : 23D125
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSD016WB	DSD016WL	DSD016WC
LAB FILE ID	: LD13078A	LD13079A	LD13080A
DATE PREPARED	: 04/13/23 13:15	04/13/23 13:15	04/13/23 13:15
DATE ANALYZED	: 04/14/23 15:52	04/14/23 16:10	04/14/23 16:29
PREP BATCH	: 23DSD016W	23DSD016W	23DSD016W
CALIBRATION REF:	LD13072A	LD13072A	LD13072A

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	2.17	87	2.50	2.14	86	1	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.349	70	0.500	0.416	83	60-130
Hexacosane	0.125	0.126	101	0.125	0.128	102	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 : 380-43175
BATCH NO. : 23D125
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-43175-1	380-43175-1MS	380-43175-1MSD
LAB SAMPLE ID	: 23D125-01	23D125-01M	23D125-01S
LAB FILE ID	: LD13089A	LD13090A	LD13091A
DATE PREPARED	: 04/13/23 13:15	04/13/23 13:15	04/13/23 13:15
DATE ANALYZED	: 04/14/23 19:16	04/14/23 19:35	04/14/23 19:53
PREP BATCH	: 23DSD016W	23DSD016W	23DSD016W
CALIBRATION REF:	LD13072A	LD13072A	LD13072A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.53	2.30	91	2.50	1.90	76	19	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.505	0.372	74	0.500	0.317	63	60-130
Hexacosane	0.126	0.139	110	0.125	0.128	102	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:	04/13/23 13:15
Project	: 380-43175	Date Received:	04/13/23
Batch No.	: 23D125	Date Extracted:	04/13/23 13:15
Sample ID	: MBLK1W	Date Analyzed:	04/14/23 15:52
Lab Samp ID:	DSD016WB	Dilution Factor:	1
Lab File ID:	LD13078A	Matrix:	WATER
Ext Btch ID:	23DSD016W	% Moisture:	NA
Calib. Ref.:	LD13073A	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	0.424	0.500	85	60-130
Hexacosane	0.125	0.125	100	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-43175
BATCH NO. : 23D125
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSD016WB	J5D016WL	J5D016WC
LAB FILE ID	: LD13078A	LD13081A	LD13082A
DATE PREPARED	: 04/13/23 13:15	04/13/23 13:15	04/13/23 13:15
DATE ANALYZED	: 04/14/23 15:52	04/14/23 16:48	04/14/23 17:06
PREP BATCH	: 23DSD016W	23DSD016W	23DSD016W
CALIBRATION REF:	LD13073A	LD13073A	LD13073A

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	2.05	82	2.50	1.79	72	14	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.453	91	0.500	0.392	78	60-130
Hexacosane	0.125	0.126	101	0.125	0.114	91	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 : 380-43175
BATCH NO. : 23D125
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 380-43175-1	380-43175-1MS	380-43175-1MSD
LAB SAMPLE ID	: 23D125-01	23D125-01M	23D125-01S
LAB FILE ID	: LD13089A	LD13092A	LD13093A
DATE PREPARED	: 04/13/23 13:15	04/13/23 13:15	04/13/23 13:15
DATE ANALYZED	: 04/14/23 19:16	04/14/23 20:12	04/14/23 20:30
PREP BATCH	: 23DSD016W	23DSD016W	23DSD016W
CALIBRATION REF:	LD13073A	LD13073A	LD13073A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.72	2.18	80	2.75	2.06	75	6	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.545	0.458	84	0.550	0.389	71	60-130
Hexacosane	0.136	0.141	103	0.138	0.131	95	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:	04/13/23 13:15
Project	: 380-43175	Date Received:	04/13/23
Batch No.	: 23D125	Date Extracted:	04/13/23 13:15
Sample ID	: MBLK1W	Date Analyzed:	04/14/23 15:52
Lab Samp ID:	DSD016WB	Dilution Factor:	1
Lab File ID:	LD13078A	Matrix:	WATER
Ext Btch ID:	23DSD016W	% Moisture:	NA
Calib. Ref.:	LD13074A	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	0.424	0.500	85	60-130
Hexacosane	0.125	0.125	100	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 : POreto

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-43175
BATCH NO. : 23D125
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSD016WB	J8D016WL	J8D016WC
LAB FILE ID	: LD13078A	LD13083A	LD13084A
DATE PREPARED	: 04/13/23 13:15	04/13/23 13:15	04/13/23 13:15
DATE ANALYZED	: 04/14/23 15:52	04/14/23 17:25	04/14/23 17:43
PREP BATCH	: 23DSD016W	23DSD016W	23DSD016W
CALIBRATION REF:	LD13074A	LD13074A	LD13074A

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	2.48	99	2.50	2.17	87	13	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.488	98	0.500	0.413	83	60-130
Hexacosane	0.125	0.121	97	0.125	0.116	93	60-130

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-43175

METHOD SW8015C
ALCOHOLS BY GC

SDG#: 23D125



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-43175

SDG : 23D125

METHOD SW8015C
ALCOHOLS BY GC

One(1) water sample was received on 04/12/23 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. MED003WB - result was compliant to project requirement. Refer to sample result summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Ethanol was within MS QC limits in D125-01M/D125-01S. Refer to Matrix QC summary form for details.

Sample Analysis

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

LAB CHRONICLE
ALCOHOLS BY GC

Client : EUROFINS EATON ANALYTICAL
 Project : 380-43175
 Laboratory Sample ID : MED003WB
 SDG NO. : 23D125
 Instrument ID : GCT050

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes	
				WATER						
MBLK1W	MED003WB	1	NA	04/14/2312:36	NA	TD14004A	TD14002A	MED003W	Method Blank	
LCS1W	MED003WL	1	NA	04/14/2312:51	NA	TD14005A	TD14002A	MED003W	Lab Control Sample (LCS)	
LCD1W	MED003WC	1	NA	04/14/2313:04	NA	TD14006A	TD14002A	MED003W	LCS Duplicate	
380-43175-1	D125-01	1	NA	04/14/2313:19	NA	TD14007A	TD14002A	MED003W	Field Sample	
380-43175-1MS	D125-01M	1	NA	04/14/2313:34	NA	TD14008A	TD14002A	MED003W	Matrix Spike Sample (MS)	
380-43175-1MSD	D125-01S	1	NA	04/14/2313:47	NA	TD14009A	TD14002A	MED003W	MS Duplicate (MSD)	

FN - Filename
 % Moist - Percent Moisture

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

SAMPLE RESULTS

METHOD SW8015C
ALCOHOLS BY GC

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	04/10/23
Project	: 380-43175	Date Received:	04/12/23
Batch No.	: 23D125	Date Extracted:	NA
Sample ID:	380-43175-1	Date Analyzed:	04/14/23 13:19
Lab Samp ID:	D125-01	Dilution Factor:	1
Lab File ID:	TD14007A	Matrix	: WATER
Ext Btch ID:	MED003W	% Moisture	: NA
Calib. Ref.:	TD14002A	Instrument ID	: GCT050

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANOL	ND	2000	500

RL : Reporting Limit



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

QC SUMMARIES

METHOD SW8015C
ALCOHOLS BY GC

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	NA
Project	: 380-43175	Date Received:	NA
Batch No.	: 23D125	Date Extracted:	NA
Sample ID:	MBLK1W	Date Analyzed:	04/14/23 12:36
Lab Samp ID:	MED003WB	Dilution Factor:	1
Lab File ID:	TD14004A	Matrix	: WATER
Ext Btch ID:	MED003W	% Moisture	: NA
Calib. Ref.:	TD14002A	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: 380-43175
BATCH NO.: 23D125
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: MED003WB MED003WL MED003WC
LAB FILE ID: TD14004A TD14005A TD14006A
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA
DATE ANALYZED: 04/14/2312:36 04/14/2312:51 04/14/2313:04 DATE RECEIVED: NA
PREP. BATCH: MED003W MED003W MED003W
CALIB. REF: TD14002A TD14002A TD14002A

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	9810	98	10000	9670	97	1	60-130	30

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-43175
BATCH NO.: 23D125
METHOD: METHOD SW8015C

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: 380-43175-1
LAB SAMP ID: D125-01 D125-01M D125-01S
LAB FILE ID: TD14007A TD14008A TD14009A
DATE EXTRACTED: NA NA NA DATE COLLECTED: 04/10/23
DATE ANALYZED: 04/14/2313:19 04/14/2313:34 04/14/2313:47 DATE RECEIVED: 04/12/23
PREP. BATCH: MED003W MED003W MED003W
CALIB. REF: TD14002A TD14002A TD14002A

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	9070	91	10000	10200	102	12	60-130	30

May 16, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-43175-1
 Physis Project ID: 1407003-388

Dear Rachelle,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 4/12/2023. 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: 1407003-388

RED-HILL Project # 38001111 Job # 380-43175-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
105081	MOANALUA WELLS	380-43175-1	4/10/2023	10:00	Samplewater	Not Specified

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

ABBREVIATIONS and ACRONYMS

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

QUALITY ASSURANCE SUMMARY

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

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

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

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

ANALYTICALS

REPORT

TERRA AURA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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

Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 105081-R1	MOANALUA WELLS 380-43175-1	Matrix: Samplewater					Sampled: 10-Apr-23 10:00			Received: 12-Apr-23	
(2,4,6-Tribromophenol)	EPA 625.1	% Recovery	48	1			Total		O-41042	13-Apr-23	11-May-23
(d5-Phenol)	EPA 625.1	% Recovery	18	1			Total		O-41042	13-Apr-23	11-May-23
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	05-May-23
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	05-May-23
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	05-May-23
Benzoic Acid	EPA 625.1	µg/L	0.485	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-41042	13-Apr-23	11-May-23
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	05-May-23

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 105081-R1	MOANALUA WELLS 380-43175-1		Matrix: Samplewater				Sampled: 10-Apr-23 10:00			Received: 12-Apr-23	
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
D benzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	05-May-23
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-41042	13-Apr-23	11-May-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 105081-R1	MOANALUA WELLS 380-43175-1	Matrix: Samplewater					Sampled: 10-Apr-23 10:00			Received: 12-Apr-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	80	1			Total		O-41042	13-Apr-23	05-May-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	74	1			Total		O-41042	13-Apr-23	05-May-23
(d12-Chrysene)	EPA 625.1	% Recovery	80	1			Total		O-41042	13-Apr-23	05-May-23
(d12-Perylene)	EPA 625.1	% Recovery	70	1			Total		O-41042	13-Apr-23	05-May-23
(d8-Naphthalene)	EPA 625.1	% Recovery	85	1			Total		O-41042	13-Apr-23	05-May-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
D benz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
D benzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
D benzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-41042	13-Apr-23	05-May-23



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

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

Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%
Sample ID: 105080-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41042		Prepared: 13-Apr-23		Analyzed: 11-May-23					
(2,4,6-Tr bromophenol)	Total	50	1			% Recovery	100	50	30 - 130%	PASS	
(d5-Phenol)	Total	57	1			% Recovery	100	57	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: 105080-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23		Analyzed: 11-May-23					
(2,4,6-Tr bromophenol)	Total	54	1			% Recovery	100	0	54	30 - 130%	PASS	
(d5-Phenol)	Total	58	1			% Recovery	100	0	58	0 - 130%	PASS	
2,4,5-Trichlorophenol	Total	0.928	1	0.05	0.1	µg/L	1	0	93	30 - 130%	PASS	
2,4,6-Trichlorophenol	Total	0.914	1	0.05	0.1	µg/L	1	0	91	56 - 118%	PASS	
2,4-Dichlorophenol	Total	0.77	1	0.05	0.1	µg/L	1	0	77	51 - 117%	PASS	
2,4-Dinitrophenol	Total	1.07	1	0.1	0.2	µg/L	1	0	107	0 - 152%	PASS	
2,6-Dichlorophenol	Total	0.405	1	0.05	0.1	µg/L	1	0	41	30 - 130%	PASS	
2,6-Di-tert-butyl-4-methylphenol	Total	0.58	1	0.05	0.1	µg/L	1	0	58	50 - 150%	PASS	
2,6-Di-tert-butylphenol	Total	0.558	1	0.05	0.1	µg/L	1	0	56	50 - 150%	PASS	
2-Chlorophenol	Total	0.657	1	0.05	0.1	µg/L	1	0	66	41 - 110%	PASS	
2-Methyl-4,6-dinitrophenol	Total	0.999	1	0.1	0.2	µg/L	1	0	100	0 - 141%	PASS	
2-Methylphenol	Total	0.641	1	0.1	0.2	µg/L	1	0	64	40 - 117%	PASS	
2-Nitrophenol	Total	0.699	1	0.1	0.2	µg/L	1	0	70	40 - 117%	PASS	
3+4-Methylphenol	Total	0.81	1	0.1	0.2	µg/L	1	0	81	0 - 130%	PASS	
4-Chloro-3-methylphenol	Total	0.862	1	0.1	0.2	µg/L	1	0	86	51 - 128%	PASS	
4-Nitrophenol	Total	0.817	1	0.1	0.2	µg/L	1	0	82	10 - 164%	PASS	
6-tert-butyl-2,4-dimethylphenol	Total	0.508	1	0.05	0.1	µg/L	1	0	51	50 - 150%	PASS	
Benzoic Acid	Total	1.01	1	0.1	0.2	µg/L	1	0	101	2 - 145%	PASS	
Benzyl Alcohol	Total	0.79	1	0.1	0.2	µg/L	1	0	79	43 - 148%	PASS	
Pentachlorophenol	Total	0.954	1	0.05	0.1	µg/L	1	0	95	36 - 111%	PASS	
Phenol	Total	0.575	1	0.1	0.2	µg/L	1	0	57	29 - 114%	PASS	
p-tert-Butylphenol	Total	0.816	1	0.05	0.1	µg/L	1	0	82	50 - 150%	PASS	

Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 105080-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23			Analyzed: 11-May-23						
(2,4,6-Tr bromophenol)	Total	54	1			% Recovery	100	0	54	30 - 130%	PASS	0	30	PASS
(d5-Phenol)	Total	64	1			% Recovery	100	0	64	0 - 130%	PASS	10	30	PASS
2,4,5-Trichlorophenol	Total	0.891	1	0.05	0.1	µg/L	1	0	89	30 - 130%	PASS	4	30	PASS
2,4,6-Trichlorophenol	Total	0.929	1	0.05	0.1	µg/L	1	0	93	56 - 118%	PASS	2	30	PASS
2,4-Dichlorophenol	Total	0.871	1	0.05	0.1	µg/L	1	0	87	51 - 117%	PASS	12	30	PASS
2,4-Dinitrophenol	Total	0.955	1	0.1	0.2	µg/L	1	0	95	0 - 152%	PASS	11	30	PASS
2,6-Dichlorophenol	Total	0.427	1	0.05	0.1	µg/L	1	0	43	30 - 130%	PASS	7	30	PASS
2,6-Di-tert-butyl-4-methylphenol	Total	0.585	1	0.05	0.1	µg/L	1	0	59	50 - 150%	PASS	2	30	PASS
2,6-Di-tert-butylphenol	Total	0.588	1	0.05	0.1	µg/L	1	0	59	50 - 150%	PASS	5	30	PASS
2-Chlorophenol	Total	0.715	1	0.05	0.1	µg/L	1	0	71	41 - 110%	PASS	9	30	PASS
2-Methyl-4,6-dinitrophenol	Total	0.941	1	0.1	0.2	µg/L	1	0	94	0 - 141%	PASS	6	30	PASS
2-Methylphenol	Total	0.718	1	0.1	0.2	µg/L	1	0	72	40 - 117%	PASS	12	30	PASS
2-Nitrophenol	Total	0.786	1	0.1	0.2	µg/L	1	0	79	40 - 117%	PASS	12	30	PASS
3+4-Methylphenol	Total	0.898	1	0.1	0.2	µg/L	1	0	90	0 - 130%	PASS	11	30	PASS
4-Chloro-3-methylphenol	Total	0.911	1	0.1	0.2	µg/L	1	0	91	51 - 128%	PASS	6	30	PASS
4-Nitrophenol	Total	0.846	1	0.1	0.2	µg/L	1	0	85	10 - 164%	PASS	4	30	PASS
6-tert-butyl-2,4-dimethylphenol	Total	0.566	1	0.05	0.1	µg/L	1	0	57	50 - 150%	PASS	11	30	PASS
Benzoic Acid	Total	0.919	1	0.1	0.2	µg/L	1	0	92	2 - 145%	PASS	9	30	PASS
Benzyl Alcohol	Total	0.912	1	0.1	0.2	µg/L	1	0	91	43 - 148%	PASS	14	30	PASS
Pentachlorophenol	Total	0.858	1	0.05	0.1	µg/L	1	0	86	36 - 111%	PASS	10	30	PASS
Phenol	Total	0.635	1	0.1	0.2	µg/L	1	0	63	29 - 114%	PASS	10	30	PASS
p-tert-Butylphenol	Total	1.04	1	0.05	0.1	µg/L	1	0	104	50 - 150%	PASS	8	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: 105080-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41042		Prepared: 13-Apr-23		Analyzed: 11-May-23					
2-Chloronaphthalene	Total	ND	1	0.05	0.1	µg/L					
2-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
3-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Bromophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Chloroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Chlorophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
Aniline	Total	ND	1	0.05	0.1	µg/L					
Benzidine	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethoxy) methane	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethyl) ether	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroisopropyl) ether	Total	ND	1	0.05	0.1	µg/L					
Dibenzofuran	Total	ND	1	0.05	0.1	µg/L					
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: 105080-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23		Analyzed: 11-May-23					
2-Chloronaphthalene	Total	0.79	1	0.05	0.1	µg/L	1	0	79	53 - 130%	PASS	
2-Nitroaniline	Total	0.968	1	0.05	0.1	µg/L	1	0	97	69 - 114%	PASS	
3-Nitroaniline	Total	0.978	1	0.05	0.1	µg/L	1	0	98	23 - 137%	PASS	
4-Bromophenylphenyl ether	Total	0.53	1	0.05	0.1	µg/L	1	0	53	61 - 132%	PASS	
4-Chloroaniline	Total	0.512	1	0.05	0.1	µg/L	1	0	51	50 - 150%	PASS	
4-Chlorophenylphenyl ether	Total	0.848	1	0.05	0.1	µg/L	1	0	85	63 - 130%	PASS	
4-Nitroaniline	Total	0.99	1	0.05	0.1	µg/L	1	0	99	10 - 159%	PASS	
Aniline	Total	0.726	1	0.05	0.1	µg/L	1	0	73	50 - 150%	PASS	
Benzidine	Total	0	1	0.05	0.1	µg/L	1	0	0	0 - 125%	PASS	
Bis(2-Chloroethoxy) methane	Total	0.806	1	0.05	0.1	µg/L	1	0	81	66 - 122%	PASS	
Bis(2-Chloroethyl) ether	Total	0.59	1	0.05	0.1	µg/L	1	0	59	43 - 127%	PASS	
Bis(2-Chloroisopropyl) ether	Total	0.916	1	0.05	0.1	µg/L	1	0	92	49 - 128%	PASS	
Dibenzofuran	Total	0.837	1	0.05	0.1	µg/L	1	0	84	50 - 150%	PASS	
Disalicylidenepropanediamin	Total	40.4	1	0.05	0.1	µg/L	50	0	81	50 - 150%	PASS	
Hexachloroethane	Total	0.628	1	0.05	0.1	µg/L	1	0	63	27 - 130%	PASS	
Nitrobenzene	Total	0.734	1	0.05	0.1	µg/L	1	0	73	54 - 111%	PASS	
N-Nitrosodi-n-propylamine	Total	0.846	1	0.05	0.1	µg/L	1	0	85	61 - 152%	PASS	
N-Nitrosodiphenylamine	Total	0.927	1	0.05	0.1	µg/L	1	0	93	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: 105080-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:				
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23		Analyzed: 11-May-23							
2-Chloronaphthalene	Total	0.831	1	0.05	0.1	µg/L	1	0	83	53 - 130%	PASS	5	30	PASS
2-Nitroaniline	Total	1.02	1	0.05	0.1	µg/L	1	0	102	69 - 114%	PASS	5	30	PASS
3-Nitroaniline	Total	1.03	1	0.05	0.1	µg/L	1	0	103	23 - 137%	PASS	5	30	PASS
4-Bromophenylphenyl ether	Total	0.532	1	0.05	0.1	µg/L	1	0	53	61 - 132%	PASS	0	30	PASS
4-Chloroaniline	Total	0.675	1	0.05	0.1	µg/L	1	0	68	50 - 150%	PASS	29	30	PASS
4-Chlorophenylphenyl ether	Total	0.873	1	0.05	0.1	µg/L	1	0	87	63 - 130%	PASS	2	30	PASS
4-Nitroaniline	Total	1.02	1	0.05	0.1	µg/L	1	0	102	10 - 159%	PASS	3	30	PASS
Aniline	Total	0.792	1	0.05	0.1	µg/L	1	0	79	50 - 150%	PASS	8	30	PASS
Benzidine	Total	0	1	0.05	0.1	µg/L	1	0	0	0 - 125%	PASS	0	30	PASS
Bis(2-Chloroethoxy) methane	Total	0.894	1	0.05	0.1	µg/L	1	0	89	66 - 122%	PASS	9	30	PASS
Bis(2-Chloroethyl) ether	Total	0.649	1	0.05	0.1	µg/L	1	0	65	43 - 127%	PASS	10	30	PASS
Bis(2-Chloroisopropyl) ether	Total	0.854	1	0.05	0.1	µg/L	1	0	85	49 - 128%	PASS	8	30	PASS
Dibenzofuran	Total	0.878	1	0.05	0.1	µg/L	1	0	88	50 - 150%	PASS	5	30	PASS
Disalicylidenepropanediamin	Total	44.8	1	0.05	0.1	µg/L	50	0	90	50 - 150%	PASS	11	30	PASS
Hexachloroethane	Total	0.654	1	0.05	0.1	µg/L	1	0	65	27 - 130%	PASS	3	30	PASS
Nitrobenzene	Total	0.808	1	0.05	0.1	µg/L	1	0	81	54 - 111%	PASS	10	30	PASS
N-Nitrosodi-n-propylamine	Total	0.925	1	0.05	0.1	µg/L	1	0	93	61 - 152%	PASS	8	30	PASS
N-Nitrosodiphenylamine	Total	0.948	1	0.05	0.1	µg/L	1	0	95	49 - 142%	PASS	2	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: 105080-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23		Analyzed: 05-May-23					
(d10-Acenaphthene)	Total	73	1			% Recovery	100	73	27 - 133%	PASS		
(d10-Phenanthrene)	Total	76	1			% Recovery	100	76	43 - 129%	PASS		
(d12-Chrysene)	Total	65	1			% Recovery	100	65	52 - 144%	PASS		
(d12-Perylene)	Total	82	1			% Recovery	100	82	36 - 161%	PASS		
(d8-Naphthalene)	Total	54	1			% Recovery	100	54	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 CODE	
							LEVEL	RESULT	% LIMITS	% LIMITS		
Sample ID: 105080-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23		Analyzed: 05-May-23					
(d10-Acenaphthene)	Total	54	1				% Recovery	100	0	54	27 - 133%	PASS
(d10-Phenanthrene)	Total	71	1				% Recovery	100	0	71	43 - 129%	PASS
(d12-Chrysene)	Total	63	1				% Recovery	100	0	63	52 - 144%	PASS
(d12-Perylene)	Total	81	1				% Recovery	100	0	81	36 - 161%	PASS
(d8-Naphthalene)	Total	53	1				% Recovery	100	0	53	25 - 125%	PASS
1-Methylnaphthalene	Total	0.29	1	0.001	0.005	µg/L	0.5	0	58	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.374	1	0.001	0.005	µg/L	0.5	0	75	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.344	1	0.001	0.005	µg/L	0.5	0	69	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.301	1	0.001	0.005	µg/L	0.5	0	60	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.728	1	0.001	0.005	µg/L	1.5	0	49	47 - 130%	PASS	
Acenaphthene	Total	1.03	1	0.001	0.005	µg/L	1.5	0	69	53 - 131%	PASS	
Acenaphthylene	Total	0.941	1	0.001	0.005	µg/L	1.5	0	63	43 - 140%	PASS	
Anthracene	Total	1.23	1	0.001	0.005	µg/L	1.5	0	82	58 - 135%	PASS	
Benz[a]anthracene	Total	0.994	1	0.001	0.005	µg/L	1.5	0	66	55 - 145%	PASS	
Benzo[a]pyrene	Total	1.27	1	0.001	0.005	µg/L	1.5	0	85	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	1.25	1	0.001	0.005	µg/L	1.5	0	83	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.355	1	0.001	0.005	µg/L	0.5	0	71	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	1.35	1	0.001	0.005	µg/L	1.5	0	90	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	1.38	1	0.001	0.005	µg/L	1.5	0	92	56 - 145%	PASS	
Biphenyl	Total	0.285	1	0.001	0.005	µg/L	0.5	0	57	56 - 119%	PASS	
Chrysene	Total	1.02	1	0.001	0.005	µg/L	1.5	0	68	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	1.58	1	0.001	0.005	µg/L	1.5	0	105	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.248	1	0.001	0.005	µg/L	0.5	0	50	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	0.38	1	0.001	0.005	µg/L	0.5	0	76	46 - 126%	PASS		
Fluoranthene	Total	1.48	1	0.001	0.005	µg/L	1.5	0	99	60 - 146%	PASS		
Fluorene	Total	1.04	1	0.001	0.005	µg/L	1.5	0	69	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	1.41	1	0.001	0.005	µg/L	1.5	0	94	50 - 151%	PASS		
Naphthalene	Total	0.706	1	0.001	0.005	µg/L	1.5	0	47	41 - 126%	PASS		
Perylene	Total	0.4	1	0.001	0.005	µg/L	0.5	0	80	48 - 141%	PASS		
Phenanthrene	Total	1.21	1	0.001	0.005	µg/L	1.5	0	81	67 - 127%	PASS		
Pyrene	Total	1.52	1	0.001	0.005	µg/L	1.5	0	101	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: 105080-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
Method: EPA 625.1		Batch ID: O-41042			Prepared: 13-Apr-23			Analyzed: 05-May-23						
(d10-Acenaphthene)	Total	73	1			% Recovery	100	0	73	27 - 133%	PASS	30	30	PASS
(d10-Phenanthrene)	Total	76	1			% Recovery	100	0	76	43 - 129%	PASS	7	30	PASS
(d12-Chrysene)	Total	68	1			% Recovery	100	0	68	52 - 144%	PASS	8	30	PASS
(d12-Perylene)	Total	77	1			% Recovery	100	0	77	36 - 161%	PASS	5	30	PASS
(d8-Naphthalene)	Total	62	1			% Recovery	100	0	62	25 - 125%	PASS	16	30	PASS
1-Methylnaphthalene	Total	0.376	1	0.001	0.005	µg/L	0.5	0	75	31 - 128%	PASS	26	30	PASS
1-Methylphenanthrene	Total	0.387	1	0.001	0.005	µg/L	0.5	0	77	66 - 127%	PASS	3	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.374	1	0.001	0.005	µg/L	0.5	0	75	55 - 122%	PASS	8	30	PASS
2,6-Dimethylnaphthalene	Total	0.337	1	0.001	0.005	µg/L	0.5	0	67	48 - 120%	PASS	11	30	PASS
2-Methylnaphthalene	Total	0.93	1	0.001	0.005	µg/L	1.5	0	62	47 - 130%	PASS	23	30	PASS
Acenaphthene	Total	1.21	1	0.001	0.005	µg/L	1.5	0	81	53 - 131%	PASS	16	30	PASS
Acenaphthylene	Total	1.22	1	0.001	0.005	µg/L	1.5	0	81	43 - 140%	PASS	25	30	PASS
Anthracene	Total	1.24	1	0.001	0.005	µg/L	1.5	0	83	58 - 135%	PASS	1	30	PASS
Benz[a]anthracene	Total	1.05	1	0.001	0.005	µg/L	1.5	0	70	55 - 145%	PASS	6	30	PASS
Benzo[a]pyrene	Total	1.28	1	0.001	0.005	µg/L	1.5	0	85	51 - 143%	PASS	0	30	PASS
Benzo[b]fluoranthene	Total	1.32	1	0.001	0.005	µg/L	1.5	0	88	46 - 165%	PASS	6	30	PASS
Benzo[e]pyrene	Total	0.364	1	0.001	0.005	µg/L	0.5	0	73	42 - 152%	PASS	3	30	PASS
Benzo[g,h,i]perylene	Total	1.37	1	0.001	0.005	µg/L	1.5	0	91	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	1.33	1	0.001	0.005	µg/L	1.5	0	89	56 - 145%	PASS	3	30	PASS
Biphenyl	Total	0.271	1	0.001	0.005	µg/L	0.5	0	54	56 - 119%	PASS	5	30	PASS
Chrysene	Total	1.11	1	0.001	0.005	µg/L	1.5	0	74	56 - 141%	PASS	8	30	PASS
Dibenz[a,h]anthracene	Total	1.79	1	0.001	0.005	µg/L	1.5	0	119	55 - 150%	PASS	12	30	PASS
Dibenzo[a,l]pyrene	Total	0.293	1	0.001	0.005	µg/L	0.5	0	59	50 - 150%	PASS	17	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	0.388	1	0.001	0.005	µg/L	0.5	0	78	46 - 126%	PASS	3	30	PASS
Fluoranthene	Total	1.43	1	0.001	0.005	µg/L	1.5	0	95	60 - 146%	PASS	4	30	PASS
Fluorene	Total	1.25	1	0.001	0.005	µg/L	1.5	0	83	58 - 131%	PASS	18	30	PASS
Indeno[1,2,3-cd]pyrene	Total	1.53	1	0.001	0.005	µg/L	1.5	0	102	50 - 151%	PASS	8	30	PASS
Naphthalene	Total	0.91	1	0.001	0.005	µg/L	1.5	0	61	41 - 126%	PASS	26	30	PASS
Perylene	Total	0.346	1	0.001	0.005	µg/L	0.5	0	69	48 - 141%	PASS	15	30	PASS
Phenanthrene	Total	1.19	1	0.001	0.005	µg/L	1.5	0	79	67 - 127%	PASS	2	30	PASS
Pyrene	Total	1.39	1	0.001	0.005	µg/L	1.5	0	93	54 - 156%	PASS	8	30	PASS

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

PHYSICS

TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: Lab Blank B1_41042

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.4715	3.0041	1111	Anthracene-D10-	1719-06-8	93
10.6456	2.1463	794	Cyclohexane, nitro-	1122-60-7	90
32.2400	0.8606	318	Benzoic acid, 2-ethylhexyl ester	5444-75-7	86
10.0226	0.3490	129	Propane, 2,2-dimethoxy-	77-76-9	82
10.0224	0.3121	115	Borane, dimethoxy-	4542-61-4	88

Concentration estimated using the response for Anthracene-d10

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

Sample ID: 105081

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.4643	4.3474	1111	Anthracene-D10-	1719-06-8	94
10.6453	5.4217	1386	Cyclopropane, 2-bromo-1,1,3-trimethyl-	36617-00-2	91
10.0120	1.5923	407	Cyclopentane, 1,2,3,4,5-pentamethyl-	1000152-79-7	83
22.5090	0.9442	241	Phthalimide	85-41-6	93
10.4539	0.6711	172	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	88
10.0164	0.6671	171	Propane, 2-methyl-2-nitro-	594-70-7	83
32.2424	0.5008	128	Benzoic acid, 2-ethylhexyl ester	5444-75-7	92
10.3955	0.4871	124	2-Nonene, 3-methyl-, (E)-	17003-99-5	84
10.2810	0.4705	120	Hydroperoxide, 1-ethylbutyl	24254-56-6	92

Concentration estimated using the response for Anthracene-d10

PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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

Project Iteration ID: 1407003-388
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-43175-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: MN
2. Date Received: 4/12/23
3. Time Received: 10:12
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): 10.2 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: RGH

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:

See Temp

Eurofins Drinking Water Testing Pomona

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

Chain of Custody Record



Client Information		Sampler: <u>NISHIKAWA</u>	Lab PM: Arada, Rachele	Carrier Tracking No(s):	COC No: 380-21928-1845.1	
Client Contact: Dr. Ron Fenstemacher		Phone:	E-Mail: Rachele.Arada@et.eurofinsus.com	State of Origin:	Page: Page 1 of 4	
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 checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 504.1_PREC, 505_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:			
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: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify) Other:			
Site: Hawaii		SSOW#:				
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Special Instructions/Note:	
Preservation Code: <input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> D <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> CB <input checked="" type="checkbox"/> HA <input checked="" type="checkbox"/> N <input checked="" type="checkbox"/> D <input checked="" type="checkbox"/> RA <input checked="" type="checkbox"/> RA <input checked="" type="checkbox"/> RA <input checked="" type="checkbox"/> R						
AIEA GULCH WELLS PUMP 1				Water	(752A) 3.6/3.5	
AIEA GULCH WELLS PUMP 2				Water	Fed Ex: 771806752237	
AIEA WELLS P___(260)				Water	(752A) 2.6/2.5	
HALAWA WELLS UNITS 1 & 2				Water	Fed Ex: 771806754160 3987	
MOANALUA WELLS	4/10/23	1000	G	Water	(752A) 3.1/3.0	
HALAWA SHAFT VIEW POOL				Water	Fed Ex: 771806754160	
KAAMILO WELLS				Water		
TB: AIEA GULCH WELLS PUMP 1				Water		
TB: AIEA GULCH WELLS PUMP 2				Water		
TB: AIEA WELLS PUMPS1&2(260)				Water	380-43175 COC	
TB: HALAWA WELLS UNITS 1 & 2				Water		
Possible Hazard Identification			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological			<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)			Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment: Fed Ex: 77180675413		
Relinquished by: [Redacted]	Date/Time: 4/10/23 12:00	Company: DWS	Received by: Mark Uscutia	Date/Time: 4/11/23 1000	Company: EEA	
	Date/Time:	Company:	Received by:	Date/Time:	Company:	



Eurofins Drinking Water Testing Pomona

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

Chain of Custody Record



Client Information		Sampler: <u>NISHIKAWA</u>	Lab PM: Arada, Rachele	Carrier Tracking No(s):	COC No: 380-21928-1845.2											
Client Contact: Dr. Ron Fenstemacher		Phone:	E-Mail: Rachele.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 4											
Company: City & County of Honolulu		PWSID:	Analysis Requested													
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform #S/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 TCPEDIBDCP</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> <td>504.1_PREC - Local Method</td> </tr> </table>			Field Filtered Sample (Yes or No)	Perform #S/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 TCPEDIBDCP	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	504.1_PREC - Local Method		
Field Filtered Sample (Yes or No)	Perform #S/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 TCPEDIBDCP	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	504.1_PREC - Local Method					
City: Honolulu		TAT Requested (days):				Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)										
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No				Total Number of containers										
Phone: 808-748-5091(Tel)		PO #: C20525101 exp 05312023				Other:										
Email: RFENSTEMACHER@hbws.org		WO #:	Special Instructions/Note:													
Project Name: RED-HILL		Project #: 38001111														
Site: Hawaii		SSOW#:														
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform #S/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 TCPEDIBDCP	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	504.1_PREC - Local Method	Total Number of containers	Other:	Special Instructions/Note:
AIEA GULCH WELLS PUMP 1				Water												(752A) 3.6/3.5
AIEA GULCH WELLS PUMP 2				Water												FedEx: 771806752237
AIEA WELLS P___ (260)				Water												(752A) 2.6/2.5
HALAWA WELLS UNITS 1 & 2				Water												FedEx: 771806753987
MOANALUA WELLS	4/10/23	1000	g	Water			✓	✓	✓	✓	✓	✓	✓			(752A) 3.1/3.0
HALAWA SHAFT VIEW POOL				Water												FedEx: 771806754160
KAAMILO WELLS				Water												
TB: AIEA GULCH WELLS PUMP 1				Water												
TB: AIEA GULCH WELLS PUMP 2				Water												
TB: AIEA WELLS PUMPS1&2(260)				Water												
TB: HALAWA WELLS UNITS 1 & 2				Water												
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:										
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment: <u>FedEx: 771806754413</u>												
Relinquished by: <u>[Signature]</u>		Date/Time: <u>4/10/23 12:00</u>	Company: <u>BWS</u>	Received by: <u>[Signature]</u>		Date/Time: <u>4/11/23 10:00</u>	Company: <u>IEA</u>									
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:									
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:									



Eurofins Drinking Water Testing Pomona

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

Chain of Custody Record



Client Information		Sampler: <i>MISHIKAWA</i>	Lab PM: Arada, Rachele	Carrier Tracking No(s):	COC No: 380-21928-1845.3																										
Client Contact: Dr. Ron Fenstermacher		Phone:	E-Mail: Rachele.Arada@et.eurofinsus.com	State of Origin:	Page: Page 3 of 4																										
Company: City & County of Honolulu		PWSID:	Analysis Requested																												
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	<table border="1"> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform MS/MSD (Yes or No)</td> <td>504.1_PREC_505_LL_PREC</td> <td>2320B_2510B_SM4500_H+</td> <td>200.7_200.8</td> <td>2540C_Calcd - Total Dissolved Solids (TDS)</td> <td>SM4500_S2_D - Sulfide, Total</td> <td>524.2_Pres_PREC_524.2_SIM_PREC</td> <td>525.2_PREC - 525plus Plus TICs</td> <td>300_OF_28D_B_300_OF_28D_PREC_300_OF_48H_PREC_4500_F_C</td> <td>245.1 - Local Method</td> <td>SUBCONTRACT - 8015 Jet Fuel 8 (JP8)</td> <td>SUBCONTRACT - 8015 Jet Fuel 5 (JP5)</td> <td>SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> <td>Total Number of containers</td> </tr> </table>			Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	504.1_PREC_505_LL_PREC	2320B_2510B_SM4500_H+	200.7_200.8	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										
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	504.1_PREC_505_LL_PREC				2320B_2510B_SM4500_H+	200.7_200.8	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													
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 #:																													
Email: RFENSTEMACHER@hbws.org		WO #:																													
Project Name: RED-HILL		Project #:																													
Site: Hawaii		SSOW#:	Preservation Codes:																												
			<table border="0"> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O3</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Y - Trizma</td> </tr> <tr> <td></td> <td>Z - other (specify)</td> </tr> </table>			A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O3	G - Amchlor	S - H2SO4	H - Ascorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Y - Trizma		Z - other (specify)
A - HCL	M - Hexane																														
B - NaOH	N - None																														
C - Zn Acetate	O - AsNaO2																														
D - Nitric Acid	P - Na2O4S																														
E - NaHSO4	Q - Na2SO3																														
F - MeOH	R - Na2S2O3																														
G - Amchlor	S - H2SO4																														
H - Ascorbic Acid	T - TSP Dodecahydrate																														
I - Ice	U - Acetone																														
J - DI Water	V - MCAA																														
K - EDTA	W - pH 4-5																														
L - EDA	Y - Trizma																														
	Z - other (specify)																														
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastel/ol, BT=Tasus, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	504.1_PREC_505_LL_PREC	2320B_2510B_SM4500_H+	200.7_200.8	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	Special Instructions/Note:									
				Preservation Code:																											
TB: MOANALUA WELLS		4/11/23	1000	<i>W</i>	Water																		(752A) 3.6/35								
TB: HALAWA SHAFT VIEW POOL					Water																		FedEx: 771806752837								
TB: KAAMILO WELLS					Water																		(752A) 2.6/2.5								
																							FedEx: 771806753987								
																							(752A) 31/30								
																							FedEx: 771806754160								
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:																													
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		FedEx: 77180675413																									
Relinquished by: <i>[Signature]</i>	Date/Time: 4/11/23 1200	Company: BWS	Received by: <i>Mark Urcatia</i>	Date/Time: 4/11/23 1000	Company: EEA																										
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:																										
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:																										



Eurofins Eaton Analytical Pomona

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

Chain of Custody Record



eurofins
Environment Testing

Client Information (Sub Contract Lab)			Sampler:	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-47687.1
Client Contact: Shipping/Receiving			Phone:	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Eurofins Eaton Analytical				Accreditations Required (See note): State - Hawaii		Job #: 380-43175-1
Address: 110 S Hill Street,		Due Date Requested: 5/1/2023		Analysis Requested		
City: South Bend		TAT Requested (days):				
State, Zip: IN, 46617		PO #:		Client Provided Sample Container		
Phone: 574-233-4777(Tel) 574-233-8207(Fax)		WO #:				
Email:		Project #: 38001111		Total Number of containers		
Project Name: RED-HILL		SSOW#:				
Site: Honolulu BWS Sites				Preservation Codes:		
				Other:		
				Special Instructions/Note:		
				Field Filtered Sample (Yes or No)		
				Perform MS/MSD (Yes or No)		
				245.1/245.1_Prep Mercury by 245.1		
				505_PREC/505_Prep Phase II & V PCB/Tosaphene/Chlordane		
				525.2_LL_PREC/525.2_Prep (MOD) CA Pest		
				Matrix		
				(W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		
				Sample Type		
				(C=Comp, G=grab)		
				Sample Date		
				Sample Time		
				Preservation Code:		
				MOANALUA WELLS (380-43175-1)		
				4/10/23		
				10:00		
				Hawaiian		
				Water		
				X X X		
				6		
				Not received ML 4/13/23		
				Initial Temp 0.2, 1.2 Corrupted Temp 0.4, 1.8 IR Gun # 30 wet		

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analysis & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification			Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
Unconfirmed			<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)		Primary Deliverable Rank: 2	Special Instructions/QC Requirements:		
Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:
Relinquished by: <i>Cedillo</i>		Date/Time: <i>4/12/23 11:41</i>	Received by: <i>Morgan Tippin</i>		Date/Time: <i>4/13/23 9:00</i>
Relinquished by:		Date/Time:	Received by:		Date/Time:
Relinquished by:		Date/Time:	Received by:		Date/Time:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-43175-1

Login Number: 43175

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Sanchez Velasquez, Gustavo

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	One of the received 524.3 containers was received broken.
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-43175-1

Login Number: 43175
List Number: 2
Creator: Lippincott, Morgan

List Source: Eurofins Eaton Analytical South Bend
List Creation: 04/13/23 01:56 PM

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

