



ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-23130-1



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Definitions/Glossary

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

Job ID: 380-23130-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

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

GC/MS Semi VOA

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

GC/MS Semi VOA TICs

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

GC Semi VOA

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

HPLC/IC

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

Metals

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

General Chemistry

Qualifier	Qualifier Description
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)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)

Eurofins Eaton Monrovia

Definitions/Glossary

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

Job ID: 380-23130-1

Glossary (Continued)

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

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: 380-23130-1

Job ID: 380-23130-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative 380-23130-1

Comments

No additional comments.

Receipt

The samples were received on 10/5/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.5° C, 3.0° C, 3.5° C and 4.9° C.

Receipt Exceptions

Two out of three of the received Voa Vial 40ml Amber - Sodium thiosulfates from KAAMILO WELLS (331-261-TP008) (8015 Ethanol) consisted of ice formation. KAAMILO WELLS (331-261-TP008) (380-23130-1) and TB: KAAMILO WELLS (380-23130-

GC/MS VOA

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

GC/MS Semi VOA

Method 525.2: The continuing calibration verification (CCV) associated with batch 380-20196 recovered above the upper control limit for Dibenz(a,h)anthracene and Indeno[1,2,3-cd]pyrene. The samples associated with this CCV were non-detects for the affected analytes; 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.

HPLC/IC

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 380-19730 were outside control limits for Chloride. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within acceptance limits.

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

GC Semi VOA

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 380-20055 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

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

Case Narrative

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

Job ID: 380-23130-1

Job ID: 380-23130-1 (Continued)

Laboratory: Eurofins Eaton Monrovia (Continued)

Methods 8015 Diesel LL (EAL) and Motor Oil, 8015 Ethanol, 8015 Gas (Purgeable) LL (EAL), 8015 Jet Fuel 5 (JP5), 8015 Jet Fuel 8 (JP8): These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Methods 625 Acid LL (EAL) Physis, 625 Base Neutral LL (EAL) Physis, 625 PAH Physis LL (EAL) + TICs: These methods were subcontracted to Physis Environmental Laboratories. The subcontract laboratory certifications are different from that of the facility issuing the final report.

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Detection Summary

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dieldrin	0.043		0.0020	ug/L	1		505	Total/NA
Chlordane (n.o.s.)	0.14		0.10	ug/L	1		505	Total/NA
Heptachlor epoxide	0.013		0.010	ug/L	1		505	Total/NA
Bromide	280		5.0	ug/L	1		300.0	Total/NA
Chloride	130		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	1.5		0.25	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	1.5		0.25	mg/L	5		300.0	Total/NA
Sulfate	23		1.3	mg/L	5		300.0	Total/NA
Calcium	20		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	20		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.7		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	56		1.0	mg/L	1		200.7 Rev 4.4	Total/NA
Chromium	1.3		1.0	ug/L	1		200.8	Total
Copper	60		2.0	ug/L	1		200.8	Total
								Recoverable
Alkalinity	68		2.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	68		2.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	580		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	370		20	mg/L	1		SM 2540C	Total/NA
Fluoride	0.059		0.050	mg/L	1		SM 4500 F C	Total/NA
pH	7.7	HF		SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 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			10/10/22 15:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	ND		2.0	ug/L			10/07/22 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		10/07/22 17:28	1
4-Bromofluorobenzene (Surr)	93		70 - 130		10/07/22 17:28	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 130		10/07/22 17:28	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	ug/L			10/06/22 21:53	1
1,1,1-Trichloroethane	ND		0.50	ug/L			10/06/22 21:53	1
1,1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			10/06/22 21:53	1
1,1,1,2-Trichloroethane	ND		0.50	ug/L			10/06/22 21:53	1
1,1-Dichloroethane	ND		0.50	ug/L			10/06/22 21:53	1
1,1-Dichloroethylene	ND		0.50	ug/L			10/06/22 21:53	1
1,1-Dichloropropene	ND		0.50	ug/L			10/06/22 21:53	1
1,2,3-Trichlorobenzene	ND	*1	0.50	ug/L			10/06/22 21:53	1
1,2,3-Trichloropropane	ND		0.50	ug/L			10/06/22 21:53	1
1,2,4-Trichlorobenzene	ND	*1	0.50	ug/L			10/06/22 21:53	1
1,2,4-Trimethylbenzene	ND		0.50	ug/L			10/06/22 21:53	1
1,2-Dichloroethane	ND		0.50	ug/L			10/06/22 21:53	1
1,2-Dichloropropane	ND		0.50	ug/L			10/06/22 21:53	1
1,3,5-Trimethylbenzene	ND		0.50	ug/L			10/06/22 21:53	1
1,3-Dichloropropane	ND		0.50	ug/L			10/06/22 21:53	1
2,2-Dichloropropane	ND		0.50	ug/L			10/06/22 21:53	1
2-Butanone (MEK)	ND		5.0	ug/L			10/06/22 21:53	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			10/06/22 21:53	1
Acetone	ND		500	ug/L			10/06/22 21:53	1
Benzene	ND		0.50	ug/L			10/06/22 21:53	1
Bromobenzene	ND		0.50	ug/L			10/06/22 21:53	1
Bromochloromethane	ND		0.50	ug/L			10/06/22 21:53	1
Bromodichloromethane	ND		0.50	ug/L			10/06/22 21:53	1
Bromoform	ND		0.50	ug/L			10/06/22 21:53	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			10/06/22 21:53	1
Carbon disulfide	ND		0.50	ug/L			10/06/22 21:53	1
Carbon tetrachloride	ND		0.50	ug/L			10/06/22 21:53	1
Chlorobenzene	ND		0.50	ug/L			10/06/22 21:53	1
Chlorodibromomethane	ND		0.50	ug/L			10/06/22 21:53	1
Chloroethane	ND		0.50	ug/L			10/06/22 21:53	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			10/06/22 21:53	1
Dichloromethane	ND		0.50	ug/L			10/06/22 21:53	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			10/06/22 21:53	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			10/06/22 21:53	1
Dibromomethane	ND		0.50	ug/L			10/06/22 21:53	1
Dichlorodifluoromethane	ND		0.50	ug/L			10/06/22 21:53	1
Ethylbenzene	ND		0.50	ug/L			10/06/22 21:53	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		0.50	ug/L			10/06/22 21:53	1
Isopropylbenzene	ND		0.50	ug/L			10/06/22 21:53	1
m,p-Xylenes	ND		0.50	ug/L			10/06/22 21:53	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			10/06/22 21:53	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			10/06/22 21:53	1
Naphthalene	ND	*1	0.50	ug/L			10/06/22 21:53	1
n-Butylbenzene	ND	*1	0.50	ug/L			10/06/22 21:53	1
N-Propylbenzene	ND		0.50	ug/L			10/06/22 21:53	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			10/06/22 21:53	1
o-Chlorotoluene	ND		0.50	ug/L			10/06/22 21:53	1
o-Xylene	ND		0.50	ug/L			10/06/22 21:53	1
p-Chlorotoluene	ND		0.50	ug/L			10/06/22 21:53	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			10/06/22 21:53	1
p-Isopropyltoluene	ND		0.50	ug/L			10/06/22 21:53	1
sec-Butylbenzene	ND		0.50	ug/L			10/06/22 21:53	1
Styrene	ND		0.50	ug/L			10/06/22 21:53	1
Tert-amyl methyl ether	ND		3.0	ug/L			10/06/22 21:53	1
Tert-butyl ethyl ether	ND		3.0	ug/L			10/06/22 21:53	1
tert-Butylbenzene	ND		0.50	ug/L			10/06/22 21:53	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			10/06/22 21:53	1
Toluene	ND		0.50	ug/L			10/06/22 21:53	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			10/06/22 21:53	1
Xylenes, Total	ND		0.50	ug/L			10/06/22 21:53	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			10/06/22 21:53	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			10/06/22 21:53	1
Trichloroethylene (TCE)	ND		0.50	ug/L			10/06/22 21:53	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			10/06/22 21:53	1
Vinyl Chloride (VC)	ND		0.30	ug/L			10/06/22 21:53	1
Trichlorotrifluoroethane	ND		0.50	ug/L			10/06/22 21:53	1
Bromoethane	ND		0.50	ug/L			10/06/22 21:53	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			10/06/22 21:53	1
Diisopropyl ether	ND		3.0	ug/L			10/06/22 21:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	26	T J	ug/L		0.98			10/06/22 21:53	1
Unknown	0.51	T J	ug/L		8.55			10/06/22 21:53	1
Unknown	0.79	T J	ug/L		9.77			10/06/22 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		10/06/22 21:53	1
4-Bromofluorobenzene (Surr)	102		70 - 130		10/06/22 21:53	1
Toluene-d8 (Surr)	82		70 - 130		10/06/22 21:53	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
2,4'-DDE	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
2,4'-DDT	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
2,4-Dinitrotoluene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
2,6-Dinitrotoluene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
4,4'-DDE	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
4,4'-DDT	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Acenaphthene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Acenaphthylene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Acetochlor	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Alachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
alpha-BHC	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
alpha-Chlordane	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Anthracene	ND	F1	0.020	ug/L		10/08/22 12:31	10/10/22 13:24	1
Atrazine	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Benz(a)anthracene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Benzo[a]pyrene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:24	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:24	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:24	1
beta-BHC	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		10/08/22 12:31	10/10/22 13:24	1
Bromacil	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Butachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Butylbenzylphthalate	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:24	1
Caffeine	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Chlorobenzilate	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Chloroneb	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Chlorothalonil (Draconil, Bravo)	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Chlorpyrifos	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Chrysene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:24	1
delta-BHC	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		10/08/22 12:31	10/10/22 13:24	1
Diazinon (Qualitative)	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Diclorvos (DDVP)	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Dieldrin	ND		0.20	ug/L		10/08/22 12:31	10/10/22 13:24	1
Diethylphthalate	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:24	1
Dimethoate	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Dimethylphthalate	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:24	1
Di-n-butyl phthalate	ND		0.98	ug/L		10/08/22 12:31	10/10/22 13:24	1
Di-n-octyl phthalate	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Endosulfan I (Alpha)	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Endosulfan II (Beta)	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Endosulfan sulfate	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Endrin	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Endrin aldehyde	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
EPTC	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Fluoranthene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Fluorene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
gamma-BHC (Lindane)	ND		0.039	ug/L		10/08/22 12:31	10/10/22 13:24	1
gamma-Chlordane	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Heptachlor	ND		0.039	ug/L		10/08/22 12:31	10/10/22 13:24	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Hexachlorobenzene	ND	^3+	0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Isophorone	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:24	1
Malathion	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Methoxychlor	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Metolachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Metribuzin	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Molinate	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Naphthalene	ND		0.29	ug/L		10/08/22 12:31	10/10/22 13:24	1
Parathion	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Phenanthrene	ND		0.039	ug/L		10/08/22 12:31	10/10/22 13:24	1
Propachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Pyrene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Simazine	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Terbacil	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Terbutylazine	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
Thiobencarb	ND		0.20	ug/L		10/08/22 12:31	10/10/22 13:24	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/08/22 12:31	10/10/22 13:24	1
trans-Nonachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:24	1
Trifluralin	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
1-Methylnaphthalene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1
2-Methylnaphthalene	ND		0.098	ug/L		10/08/22 12:31	10/10/22 13:24	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L				10/08/22 12:31	10/10/22 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	97		70 - 130	10/08/22 12:31	10/10/22 13:24	1
Perylene-d12	92		70 - 130	10/08/22 12:31	10/10/22 13:24	1
Triphenylphosphate	105		70 - 130	10/08/22 12:31	10/10/22 13:24	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		0.041	ug/L		10/13/22 14:08	10/14/22 00:39	1
1,2-Dibromo-3-Chloropropane	ND		0.010	ug/L		10/13/22 14:08	10/14/22 00:39	1
1,2-Dibromoethane	ND		0.010	ug/L		10/13/22 14:08	10/14/22 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	102		60 - 140	10/13/22 14:08	10/14/22 00:39	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	ug/L		10/07/22 11:58	10/07/22 17:16	1
Dieldrin	0.043		0.0020	ug/L		10/07/22 11:58	10/07/22 17:16	1
Toxaphene	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
Alachlor	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
Chlordane (n.o.s.)	0.14		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
Endrin	ND		0.010	ug/L		10/07/22 11:58	10/07/22 17:16	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Heptachlor	ND		0.010	ug/L		10/07/22 11:58	10/07/22 17:16	1
Heptachlor epoxide	0.013		0.010	ug/L		10/07/22 11:58	10/07/22 17:16	1
gamma-BHC (Lindane)	ND		0.010	ug/L		10/07/22 11:58	10/07/22 17:16	1
Methoxychlor	ND		0.050	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1016	ND		0.070	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1221	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1232	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1242	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1248	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1254	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
PCB-1260	ND		0.070	ug/L		10/07/22 11:58	10/07/22 17:16	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		10/07/22 11:58	10/07/22 17:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	98		70 - 130			10/07/22 11:58	10/07/22 17:16	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	280		5.0	ug/L			10/08/22 02:23	1
Chloride	130		2.5	mg/L			10/06/22 00:34	5
Nitrate as N	1.5		0.25	mg/L			10/06/22 00:34	5
Nitrate Nitrite as N	1.5		0.25	mg/L			10/06/22 00:34	5
Sulfate	23		1.3	mg/L			10/06/22 00:34	5
Nitrite as N	ND		0.25	mg/L			10/06/22 00:34	5

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	20		1.0	mg/L			10/06/22 20:51	1
Magnesium	20		0.10	mg/L			10/06/22 20:51	1
Potassium	2.7		1.0	mg/L			10/06/22 20:51	1
Sodium	56		1.0	mg/L			10/06/22 20:51	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		10/06/22 11:28	10/07/22 13:29	1
Arsenic	ND		1.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Beryllium	ND		1.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Cadmium	ND		0.50	ug/L		10/06/22 11:28	10/07/22 13:29	1
Chromium	1.3		1.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Copper	60		2.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Lead	ND		0.50	ug/L		10/06/22 11:28	10/07/22 13:29	1
Nickel	ND		5.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Selenium	ND		5.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Silver	ND ^2		0.50	ug/L		10/06/22 11:28	10/07/22 13:29	1
Thallium	ND		1.0	ug/L		10/06/22 11:28	10/07/22 13:29	1
Zinc	ND		20	ug/L		10/06/22 11:28	10/07/22 13:29	1

Method: EPA 245.1 - Mercury (CVAA) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/22 12:12	10/25/22 11:42	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity (SM 2320B)	68		2.0	mg/L			10/07/22 18:10	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	68		2.0	mg/L			10/07/22 18:10	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		2.0	mg/L			10/07/22 18:10	1
Specific Conductance (SM 2510B)	580		2.0	umhos/cm			10/07/22 18:10	1
Total Dissolved Solids (SM 2540C)	370		20	mg/L			10/07/22 14:29	1
Fluoride (SM 4500 F C)	0.059		0.050	mg/L			10/07/22 22:59	1
pH (SM 4500 H+ B)	7.7	HF		SU			10/07/22 18:10	1
Sulfide (SM 4500 S2 D)	ND		0.050	mg/L			10/07/22 14:00	1

Method: 625 PAH Physis LL (EAL) + 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		10/10/22 00:00	10/31/22 04:21	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Chlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Methylphenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Nitroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
2-Nitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
3-Nitroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
4-Chloroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
4-Nitroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
4-Nitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Acenaphthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Aniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzidine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzoic Acid	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
Biphenyl	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Chrysene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Dibenzofuran	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Fluorene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Hexachloroethane	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Naphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Nitrobenzene	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Pentachlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Perylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Phenanthrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1
Phenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/31/22 04:21	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/31/22 04:21	1
Pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/31/22 04:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	68		31 - 143	10/10/22 00:00	10/31/22 04:21	1
(d10-Acenaphthene)	93		45 - 118	10/10/22 00:00	10/31/22 04:21	1
(d10-Phenanthrene)	98		56 - 123	10/10/22 00:00	10/31/22 04:21	1
(d12-Chrysene)	105		36 - 142	10/10/22 00:00	10/31/22 04:21	1
(d12-Perylene)	87		36 - 161	10/10/22 00:00	10/31/22 04:21	1
(d5-Phenol)	21		0 - 85	10/10/22 00:00	10/31/22 04:21	1
(d8-Naphthalene)	81		20 - 112	10/10/22 00:00	10/31/22 04:21	1

Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			10/17/22 17:28	1
JP5	ND	U	0.052		mg/L			10/17/22 17:28	1
JP8	ND	U	0.052		mg/L			10/17/22 17:28	1
MOTOR OIL	ND	U	0.052		mg/L			10/17/22 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	86		60 - 130		10/17/22 17:28	1
HEXACOSANE	82		60 - 130		10/17/22 17:28	1

Eurofins Eaton Monrovia

Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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			10/08/22 12:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			10/08/22 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	101		60 - 140		10/08/22 23:23	1

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 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			10/10/22 15:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tertiary Butyl Alcohol (TBA)	ND		2.0	ug/L			10/07/22 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		10/07/22 17:51	1
4-Bromofluorobenzene (Surr)	98		70 - 130		10/07/22 17:51	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 130		10/07/22 17:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	ug/L			10/06/22 22:14	1
1,1,1-Trichloroethane	ND		0.50	ug/L			10/06/22 22:14	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			10/06/22 22:14	1
1,1,2-Trichloroethane	ND		0.50	ug/L			10/06/22 22:14	1
1,1-Dichloroethane	ND		0.50	ug/L			10/06/22 22:14	1
1,1-Dichloroethylene	ND		0.50	ug/L			10/06/22 22:14	1
1,1-Dichloropropene	ND		0.50	ug/L			10/06/22 22:14	1
1,2,3-Trichlorobenzene	ND	*1	0.50	ug/L			10/06/22 22:14	1
1,2,3-Trichloropropane	ND		0.50	ug/L			10/06/22 22:14	1
1,2,4-Trichlorobenzene	ND	*1	0.50	ug/L			10/06/22 22:14	1
1,2,4-Trimethylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
1,2-Dichloroethane	ND		0.50	ug/L			10/06/22 22:14	1
1,2-Dichloropropane	ND		0.50	ug/L			10/06/22 22:14	1
1,3,5-Trimethylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
1,3-Dichloropropane	ND		0.50	ug/L			10/06/22 22:14	1
2,2-Dichloropropane	ND		0.50	ug/L			10/06/22 22:14	1
2-Butanone (MEK)	ND		5.0	ug/L			10/06/22 22:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			10/06/22 22:14	1
Acetone	ND		500	ug/L			10/06/22 22:14	1
Benzene	ND		0.50	ug/L			10/06/22 22:14	1
Bromobenzene	ND		0.50	ug/L			10/06/22 22:14	1
Bromochloromethane	ND		0.50	ug/L			10/06/22 22:14	1
Bromodichloromethane	ND		0.50	ug/L			10/06/22 22:14	1

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Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		0.50	ug/L			10/06/22 22:14	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			10/06/22 22:14	1
Carbon disulfide	ND		0.50	ug/L			10/06/22 22:14	1
Carbon tetrachloride	ND		0.50	ug/L			10/06/22 22:14	1
Chlorobenzene	ND		0.50	ug/L			10/06/22 22:14	1
Chlorodibromomethane	ND		0.50	ug/L			10/06/22 22:14	1
Chloroethane	ND		0.50	ug/L			10/06/22 22:14	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			10/06/22 22:14	1
Dichloromethane	ND		0.50	ug/L			10/06/22 22:14	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			10/06/22 22:14	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			10/06/22 22:14	1
Dibromomethane	ND		0.50	ug/L			10/06/22 22:14	1
Dichlorodifluoromethane	ND		0.50	ug/L			10/06/22 22:14	1
Ethylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
Hexachlorobutadiene	ND		0.50	ug/L			10/06/22 22:14	1
Isopropylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
m,p-Xylenes	ND		0.50	ug/L			10/06/22 22:14	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			10/06/22 22:14	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			10/06/22 22:14	1
Naphthalene	ND	*1	0.50	ug/L			10/06/22 22:14	1
n-Butylbenzene	ND	*1	0.50	ug/L			10/06/22 22:14	1
N-Propylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			10/06/22 22:14	1
o-Chlorotoluene	ND		0.50	ug/L			10/06/22 22:14	1
o-Xylene	ND		0.50	ug/L			10/06/22 22:14	1
p-Chlorotoluene	ND		0.50	ug/L			10/06/22 22:14	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			10/06/22 22:14	1
p-Isopropyltoluene	ND		0.50	ug/L			10/06/22 22:14	1
sec-Butylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
Styrene	ND		0.50	ug/L			10/06/22 22:14	1
Tert-amyl methyl ether	ND		3.0	ug/L			10/06/22 22:14	1
Tert-butyl ethyl ether	ND		3.0	ug/L			10/06/22 22:14	1
tert-Butylbenzene	ND		0.50	ug/L			10/06/22 22:14	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			10/06/22 22:14	1
Toluene	ND		0.50	ug/L			10/06/22 22:14	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			10/06/22 22:14	1
Xylenes, Total	ND		0.50	ug/L			10/06/22 22:14	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			10/06/22 22:14	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			10/06/22 22:14	1
Trichloroethylene (TCE)	ND		0.50	ug/L			10/06/22 22:14	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			10/06/22 22:14	1
Vinyl Chloride (VC)	ND		0.30	ug/L			10/06/22 22:14	1
Trichlorotrifluoroethane	ND		0.50	ug/L			10/06/22 22:14	1
Bromoethane	ND		0.50	ug/L			10/06/22 22:14	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			10/06/22 22:14	1
Diisopropyl ether	ND		3.0	ug/L			10/06/22 22:14	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	8.7	T J	ug/L		0.98			10/06/22 22:14	1
Unknown	3.3	T J	ug/L		1.43			10/06/22 22:14	1

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Client Sample Results

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

Job ID: 380-23130-1

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

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

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	14	T J	ug/L		9.77			10/06/22 22:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130					10/06/22 22:14	1
4-Bromofluorobenzene (Surr)	112		70 - 130					10/06/22 22:14	1
Toluene-d8 (Surr)	81		70 - 130					10/06/22 22:14	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		10/13/22 14:08	10/14/22 01:14	1
1,2-Dibromo-3-Chloropropane	ND		0.010	ug/L		10/13/22 14:08	10/14/22 01:14	1
1,2-Dibromoethane	ND		0.010	ug/L		10/13/22 14:08	10/14/22 01:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	96		60 - 140			10/13/22 14:08	10/14/22 01:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	ug/L		10/07/22 11:58	10/07/22 18:21	1
Dieldrin	ND		0.0020	ug/L		10/07/22 11:58	10/07/22 18:21	1
Toxaphene	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
Alachlor	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
Chlordane (n.o.s.)	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
Endrin	ND		0.010	ug/L		10/07/22 11:58	10/07/22 18:21	1
Heptachlor	ND		0.010	ug/L		10/07/22 11:58	10/07/22 18:21	1
Heptachlor epoxide	ND		0.010	ug/L		10/07/22 11:58	10/07/22 18:21	1
gamma-BHC (Lindane)	ND		0.010	ug/L		10/07/22 11:58	10/07/22 18:21	1
Methoxychlor	ND		0.051	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1016	ND		0.071	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1221	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1232	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1242	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1248	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1254	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
PCB-1260	ND		0.071	ug/L		10/07/22 11:58	10/07/22 18:21	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		10/07/22 11:58	10/07/22 18:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		70 - 130			10/07/22 11:58	10/07/22 18:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			10/11/22 14:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	87		60 - 140					10/11/22 14:11	1

Action Limit Summary

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

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	Limit	EPAMCLS Limit	HI Org Limit	EPAMCL 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			0.6000		524.2	Total/NA
1,2,4-Trichlorobenzene	ND	*1	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
Dichloromethane	ND		ug/L			5.000	5	524.2	Total/NA
cis-1,2-Dichloroethylene	ND		ug/L			70.00	70	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
Xylenes, Total	ND		ug/L			10000	10000	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
Alachlor	ND		ug/L	2				525.2	Total/NA
Atrazine	ND		ug/L	3				525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2				525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6				525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400				525.2	Total/NA
Endrin	ND		ug/L	2				525.2	Total/NA
gamma-BHC (Lindane)	ND		ug/L	0.2				525.2	Total/NA
Heptachlor	ND		ug/L	0.4				525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2				525.2	Total/NA
Hexachlorobenzene	ND	^3+	ug/L	1				525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50				525.2	Total/NA
Methoxychlor	ND		ug/L	40				525.2	Total/NA
Simazine	ND		ug/L	4				525.2	Total/NA
1,2,3-Trichloropropane	ND		ug/L			0.6000		504.1	Total/NA
1,2-Dibromo-3-Chloropropane	ND		ug/L	0.2				504.1	Total/NA
1,2-Dibromoethane	ND		ug/L	0.05				504.1	Total/NA
Toxaphene	ND		ug/L	3				505	Total/NA
Alachlor	ND		ug/L	2				505	Total/NA
Endrin	ND		ug/L	2				505	Total/NA
Heptachlor	ND		ug/L	0.4				505	Total/NA
Heptachlor epoxide	0.013		ug/L	0.2				505	Total/NA
gamma-BHC (Lindane)	ND		ug/L	0.2				505	Total/NA
Methoxychlor	ND		ug/L	40				505	Total/NA

Eurofins Eaton Monrovia

Action Limit Summary

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)
(Continued)

Lab Sample ID: 380-23130-1

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	EPAMCLS		HI Org	EPAMCL	Method	Prep Type
				Limit	Limit	Limit	Limit		
Polychlorinated biphenyls, Total	ND		ug/L	0.5				505	Total/NA
Chloride	130		mg/L		250			300.0	Total/NA
Nitrate as N	1.5		mg/L	10				300.0	Total/NA
Nitrate Nitrite as N	1.5		mg/L	10				300.0	Total/NA
Sulfate	23		mg/L		250			300.0	Total/NA
Nitrite as N	ND		mg/L	1				300.0	Total/NA
Mercury - RA	ND		mg/L	0.002				245.1	Total/NA
Total Dissolved Solids	370		mg/L		500			SM 2540C	Total/NA
Fluoride	0.059		mg/L	4	2			SM 4500 F C	Total/NA

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

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	EPAMCL	RL	Method	Prep Type
				Limit	Limit			
Trihalomethanes, Total	ND		ug/L			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	0.6000		0.50	524.2	Total/NA
1,2,4-Trichlorobenzene	ND	*1	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	0.6000		0.040	504.1	Total/NA
1,2-Dibromo-3-Chloropropane	ND		ug/L			0.010	504.1	Total/NA
1,2-Dibromoethane	ND		ug/L			0.010	504.1	Total/NA
Toxaphene	ND		ug/L			0.10	505	Total/NA
Alachlor	ND		ug/L			0.10	505	Total/NA
Endrin	ND		ug/L			0.010	505	Total/NA
Heptachlor	ND		ug/L			0.010	505	Total/NA

Eurofins Eaton Monrovia

Action Limit Summary

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

Job ID: 380-23130-1

Client Sample ID: TB: KAAMILO WELLS (Continued)

Lab Sample ID: 380-23130-2

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
Heptachlor epoxide	ND		ug/L			0.010	505	Total/NA
gamma-BHC (Lindane)	ND		ug/L			0.010	505	Total/NA
Methoxychlor	ND		ug/L			0.051	505	Total/NA
Polychlorinated biphenyls, Total	ND		ug/L			0.10	505	Total/NA

Surrogate Summary

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

Job ID: 380-23130-1

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)
380-23130-1	KAAMILO WELLS (331-261-TPC)	101	93	112
380-23130-2	TB: KAAMILO WELLS	101	98	111
LCS 380-20018/2	Lab Control Sample	101	95	108
LCS 380-20018/3	Lab Control Sample Dup	99	93	111
MB 380-20018/5	Method Blank	101	95	114

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 380-20018/4	Lab Control Sample	100	95	111

Surrogate Legend

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		DCA (70-130)	BFB (70-130)	TOL (70-130)
380-23130-1	KAAMILO WELLS (331-261-TPC)	114	102	82
380-23130-2	TB: KAAMILO WELLS	115	112	81
LCS 380-19830/5	Lab Control Sample	105	105	109
LCS 380-19830/6	Lab Control Sample Dup	102	100	109
MB 380-19830/8	Method Blank	114	99	85
MRL 380-19830/3	Lab Control Sample	94	101	79
MRL 380-19830/4	Lab Control Sample	100	101	87

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-23130-1	KAAMILO WELLS (331-261-TPC)	97	92	105
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	96	94	109
380-23269-B-1-A DU	Duplicate	96	93	116

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Surrogate Summary

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

Job ID: 380-23130-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	2NMX (70-130)	PRY (70-130)	TPP (70-130)
LCS 380-20129/3-A	Lab Control Sample	95	94	103
LCSD 380-20129/4-A	Lab Control Sample Dup	95	94	101
MB 380-20129/1-A	Method Blank	96	92	106
MRL 380-20129/2-A	Lab Control Sample	96	90	106

Surrogate Legend

2NMX = 2-Nitro-m-xylene

PRY = Perylene-d12

TPP = Triphenylphosphate

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DBPP2 (60-140)
380-22826-A-2-A DU	Duplicate	97
380-22826-B-1-A MS	Matrix Spike	100
380-23130-1	KAAMILO WELLS (331-261-TP008)	102
380-23130-2	TB: KAAMILO WELLS	96
LCS 380-20612/3-A	Lab Control Sample	92
MBL 380-20612/4-A	Method Blank	93
MRL 380-20612/1-A	Lab Control Sample	92
MRL 380-20612/2-A	Lab Control Sample	94

Surrogate Legend

DBPP = 1,2-Dibromopropane (Surr)

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX1 (70-130)
380-23130-1	KAAMILO WELLS (331-261-TP008)	98
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	96
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	102
380-23130-2	TB: KAAMILO WELLS	100
380-23186-B-1-A MS	Matrix Spike	96
380-23186-D-1-A MS	Matrix Spike	100
MB 380-19979/7-A	Method Blank	107
MRL 380-19979/2-A	Lab Control Sample	98
MRL 380-19979/3-A	Lab Control Sample	96
MRL 380-19979/4-A	Lab Control Sample	103
MRL 380-19979/5-A	Lab Control Sample	103
MRL 380-19979/6-A	Lab Control Sample	103

Surrogate Legend

TCX = Tetrachloro-m-xylene

Surrogate Summary

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

Job ID: 380-23130-1

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

Matrix: BlankMatrix

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PHL (0-130)	PRY (36-161)	TBP (30-130)
100621-B1	Method Blank	83	90	84	73	40	80	56
100621-BS1	Lab Control Sample	83	93	97	76	33	84	55
100621-BS2	Lab Control Sample Dup	92	98	103	74	35	87	61

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)						
		Acenaphtl (45-118)	Phenanth (56-123)	CRY (36-142)	NPT (20-112)	PHL (0-85)	PRY (36-161)	TBP (31-143)
380-23130-1	KAAMILO WELLS (331-261-TPC)	93	98	105	81	21	87	68

Surrogate Legend

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

Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB	XACOSAI
22DSJ032WB	Method Blank		

Surrogate Legend

BB = BROMOBENZENE
 HEXACOSANE = HEXACOSANE

Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Matrix: WATER

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		BB (60-130)	XACOSAI (60-130)
22DSJ032WL	Lab Control Sample	100	94
22J5J032WL	Lab Control Sample	81	86
22J8J032WL	Lab Control Sample	100	90

Surrogate Legend

Eurofins Eaton Monrovia

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL
 BB = BROMOBENZENE
 HEXACOSANE = HEXACOSANE

Job ID: 380-23130-1

Method: 8015 Diesel LL (EAL) and Motor Oil - 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)
380-23130-1	KAAMILO WELLS (331-261-TPC)	86	82

Surrogate Legend

BB = BROMOBENZENE
 HEXACOSANE = HEXACOSANE

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
22VGH7J02B	Method Blank	
22VGH7J03B	Method Blank	

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 (70-130)
22VGH7J02C	LCD	115
22VGH7J02L	Lab Control Sample	108
22VGH7J03C	LCD	110
22VGH7J03L	Lab Control Sample	106

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)
380-23130-1	KAAMILO WELLS (331-261-TPC)	101
380-23130-2	TB: KAAMILO WELLS	87

Surrogate Legend

BFB = BROMOFLUOROBENZENE

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MB 380-19830/8
Matrix: Water
Analysis Batch: 19830

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			10/06/22 15:46	1
1,1,1-Trichloroethane	ND		0.50	ug/L			10/06/22 15:46	1
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L			10/06/22 15:46	1
1,1,2-Trichloroethane	ND		0.50	ug/L			10/06/22 15:46	1
1,1-Dichloroethane	ND		0.50	ug/L			10/06/22 15:46	1
1,1-Dichlorethylene	ND		0.50	ug/L			10/06/22 15:46	1
1,1-Dichloropropene	ND		0.50	ug/L			10/06/22 15:46	1
1,2,3-Trichlorobenzene	ND		0.50	ug/L			10/06/22 15:46	1
1,2,3-Trichloropropane	ND		0.50	ug/L			10/06/22 15:46	1
1,2,4-Trichlorobenzene	ND		0.50	ug/L			10/06/22 15:46	1
1,2,4-Trimethylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
1,2-Dichloroethane	ND		0.50	ug/L			10/06/22 15:46	1
1,2-Dichloropropane	ND		0.50	ug/L			10/06/22 15:46	1
1,3,5-Trimethylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
1,3-Dichloropropane	ND		0.50	ug/L			10/06/22 15:46	1
2,2-Dichloropropane	ND		0.50	ug/L			10/06/22 15:46	1
2-Butanone (MEK)	ND		5.0	ug/L			10/06/22 15:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			10/06/22 15:46	1
Acetone	ND		500	ug/L			10/06/22 15:46	1
Benzene	ND		0.50	ug/L			10/06/22 15:46	1
Bromobenzene	ND		0.50	ug/L			10/06/22 15:46	1
Bromochloromethane	ND		0.50	ug/L			10/06/22 15:46	1
Bromodichloromethane	ND		0.50	ug/L			10/06/22 15:46	1
Bromoform	ND		0.50	ug/L			10/06/22 15:46	1
Bromomethane (Methyl Bromide)	ND		0.50	ug/L			10/06/22 15:46	1
Carbon disulfide	ND		0.50	ug/L			10/06/22 15:46	1
Carbon tetrachloride	ND		0.50	ug/L			10/06/22 15:46	1
Chlorobenzene	ND		0.50	ug/L			10/06/22 15:46	1
Chlorodibromomethane	ND		0.50	ug/L			10/06/22 15:46	1
Chloroethane	ND		0.50	ug/L			10/06/22 15:46	1
Chloroform (Trichloromethane)	ND		0.50	ug/L			10/06/22 15:46	1
Dichloromethane	ND		0.50	ug/L			10/06/22 15:46	1
cis-1,2-Dichloroethylene	ND		0.50	ug/L			10/06/22 15:46	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			10/06/22 15:46	1
Dibromomethane	ND		0.50	ug/L			10/06/22 15:46	1
Dichlorodifluoromethane	ND		0.50	ug/L			10/06/22 15:46	1
Ethylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
Hexachlorobutadiene	ND		0.50	ug/L			10/06/22 15:46	1
Isopropylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
m,p-Xylenes	ND		0.50	ug/L			10/06/22 15:46	1
m-Dichlorobenzene (1,3-DCB)	ND		0.50	ug/L			10/06/22 15:46	1
Methyl-tert-butyl Ether (MTBE)	ND		0.50	ug/L			10/06/22 15:46	1
Naphthalene	ND		0.50	ug/L			10/06/22 15:46	1
n-Butylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
N-Propylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
o-Dichlorobenzene (1,2-DCB)	ND		0.50	ug/L			10/06/22 15:46	1
o-Chlorotoluene	ND		0.50	ug/L			10/06/22 15:46	1
o-Xylene	ND		0.50	ug/L			10/06/22 15:46	1

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MB 380-19830/8
Matrix: Water
Analysis Batch: 19830

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			10/06/22 15:46	1
p-Dichlorobenzene (1,4-DCB)	ND		0.50	ug/L			10/06/22 15:46	1
p-Isopropyltoluene	ND		0.50	ug/L			10/06/22 15:46	1
sec-Butylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
Styrene	ND		0.50	ug/L			10/06/22 15:46	1
Tert-amyl methyl ether	ND		3.0	ug/L			10/06/22 15:46	1
Tert-butyl ethyl ether	ND		3.0	ug/L			10/06/22 15:46	1
tert-Butylbenzene	ND		0.50	ug/L			10/06/22 15:46	1
Tetrachloroethene (PCE)	ND		0.50	ug/L			10/06/22 15:46	1
Toluene	ND		0.50	ug/L			10/06/22 15:46	1
1,3-Dichloropropene, Total	ND		0.50	ug/L			10/06/22 15:46	1
Xylenes, Total	ND		0.50	ug/L			10/06/22 15:46	1
trans-1,2-Dichloroethylene	ND		0.50	ug/L			10/06/22 15:46	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			10/06/22 15:46	1
Trichloroethylene (TCE)	ND		0.50	ug/L			10/06/22 15:46	1
Trichlorofluoromethane (Freon 11)	ND		0.50	ug/L			10/06/22 15:46	1
Vinyl Chloride (VC)	ND		0.30	ug/L			10/06/22 15:46	1
Trichlorotrifluoroethane	ND		0.50	ug/L			10/06/22 15:46	1
Bromoethane	ND		0.50	ug/L			10/06/22 15:46	1
Chloromethane (methyl chloride)	ND		0.50	ug/L			10/06/22 15:46	1
Diisopropyl ether	ND		3.0	ug/L			10/06/22 15:46	1

<i>Tentatively Identified Compound</i>	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>	None		ug/L					10/06/22 15:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		10/06/22 15:46	1
4-Bromofluorobenzene (Surr)	99		70 - 130		10/06/22 15:46	1
Toluene-d8 (Surr)	85		70 - 130		10/06/22 15:46	1

Lab Sample ID: LCS 380-19830/5
Matrix: Water
Analysis Batch: 19830

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	5.13		ug/L		103	70 - 130
1,1,1-Trichloroethane	5.00	4.56		ug/L		91	70 - 130
1,1,1,2,2-Tetrachloroethane	5.00	5.23		ug/L		105	70 - 130
1,1,2-Trichloroethane	5.00	5.16		ug/L		103	70 - 130
1,1-Dichloroethane	5.00	5.21		ug/L		104	70 - 130
1,1-Dichloroethylene	5.00	4.34		ug/L		87	70 - 130
1,1-Dichloropropene	5.00	4.77		ug/L		95	70 - 130
1,2,3-Trichlorobenzene	5.00	4.53		ug/L		91	70 - 130
1,2,3-Trichloropropane	5.00	4.93		ug/L		99	70 - 130
1,2,4-Trichlorobenzene	5.00	4.22		ug/L		84	70 - 130
1,2,4-Trimethylbenzene	5.00	5.18		ug/L		104	70 - 130
1,2-Dichloroethane	5.00	5.41		ug/L		108	70 - 130
1,2-Dichloropropane	5.00	5.05		ug/L		101	70 - 130

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCS 380-19830/5
Matrix: Water
Analysis Batch: 19830

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3,5-Trimethylbenzene	5.00	5.02		ug/L		100	70 - 130
1,3-Dichloropropane	5.00	5.05		ug/L		101	70 - 130
2,2-Dichloropropane	5.00	4.54		ug/L		91	70 - 130
2-Butanone (MEK)	50.0	50.4		ug/L		101	70 - 130
4-Methyl-2-pentanone (MIBK)	50.0	54.5		ug/L		109	70 - 130
Acetone	50.0	51.6	J	ug/L		103	70 - 130
Benzene	5.00	5.18		ug/L		104	70 - 130
Bromobenzene	5.00	4.87		ug/L		97	70 - 130
Bromochloromethane	5.00	5.56		ug/L		111	70 - 130
Bromodichloromethane	5.00	5.20		ug/L		104	70 - 130
Bromoform	5.00	5.05		ug/L		101	70 - 130
Bromomethane (Methyl Bromide)	5.00	5.13		ug/L		103	70 - 130
Carbon disulfide	5.00	5.01		ug/L		100	70 - 130
Carbon tetrachloride	5.00	4.60		ug/L		92	70 - 130
Chlorobenzene	5.00	5.48		ug/L		110	70 - 130
Chlorodibromomethane	5.00	5.21		ug/L		104	70 - 130
Dichloromethane	5.00	5.45		ug/L		109	70 - 130
cis-1,3-Dichloropropene	5.00	4.56		ug/L		91	70 - 130
Ethylbenzene	5.00	4.85		ug/L		97	70 - 130
Hexachlorobutadiene	5.00	4.75		ug/L		95	70 - 130
Isopropylbenzene	5.00	4.80		ug/L		96	70 - 130
m,p-Xylenes	10.0	10.9		ug/L		109	70 - 130
m-Dichlorobenzene (1,3-DCB)	5.00	5.44		ug/L		109	70 - 130
Methyl-tert-butyl Ether (MTBE)	5.00	5.03		ug/L		101	70 - 130
Naphthalene	5.00	4.05		ug/L		81	70 - 130
n-Butylbenzene	5.00	4.17		ug/L		83	70 - 130
N-Propylbenzene	5.00	5.10		ug/L		102	70 - 130
o-Dichlorobenzene (1,2-DCB)	5.00	5.05		ug/L		101	70 - 130
o-Chlorotoluene	5.00	5.27		ug/L		105	70 - 130
o-Xylene	5.00	5.23		ug/L		105	70 - 130
p-Chlorotoluene	5.00	5.83		ug/L		117	70 - 130
p-Dichlorobenzene (1,4-DCB)	5.00	5.46		ug/L		109	70 - 130
p-Isopropyltoluene	5.00	4.87		ug/L		97	70 - 130
sec-Butylbenzene	5.00	4.92		ug/L		98	70 - 130
Styrene	5.00	5.36		ug/L		107	70 - 130
Tert-amyl methyl ether	5.00	5.25		ug/L		105	70 - 130
Tert-butyl ethyl ether	5.00	5.01		ug/L		100	70 - 130
tert-Butylbenzene	5.00	4.65		ug/L		93	70 - 130
Tetrachloroethene (PCE)	5.00	4.59		ug/L		92	70 - 130
Toluene	5.00	5.08		ug/L		102	70 - 130
1,3-Dichloropropene, Total	10.0	9.04		ug/L		90	70 - 130
Xylenes, Total	15.0	16.1		ug/L		108	70 - 130
trans-1,2-Dichloroethylene	5.00	5.02		ug/L		100	70 - 130
trans-1,3-Dichloropropene	5.00	4.48		ug/L		90	70 - 130
Trichloroethylene (TCE)	5.00	4.91		ug/L		98	70 - 130
Trichlorofluoromethane (Freon 11)	5.00	4.64		ug/L		93	70 - 130
Vinyl Chloride (VC)	5.00	4.76		ug/L		95	70 - 130
Trichlorotrifluoroethane	5.00	4.26		ug/L		85	70 - 130

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCS 380-19830/5
Matrix: Water
Analysis Batch: 19830

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromoethane	5.00	5.51		ug/L		110	70 - 130
Diisopropyl ether	5.00	5.30		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		70 - 130
4-Bromofluorobenzene (Surr)	105		70 - 130
Toluene-d8 (Surr)	109		70 - 130

Lab Sample ID: LCSD 380-19830/6
Matrix: Water
Analysis Batch: 19830

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	5.62		ug/L		112	70 - 130	9	20
1,1,1-Trichloroethane	5.00	4.87		ug/L		97	70 - 130	7	20
1,1,2,2-Tetrachloroethane	5.00	5.73		ug/L		115	70 - 130	9	20
1,1,2-Trichloroethane	5.00	5.62		ug/L		112	70 - 130	8	20
1,1-Dichloroethane	5.00	5.63		ug/L		113	70 - 130	8	20
1,1-Dichlorethylene	5.00	4.61		ug/L		92	70 - 130	6	20
1,1-Dichloropropene	5.00	5.15		ug/L		103	70 - 130	8	20
1,2,3-Trichlorobenzene	5.00	5.73	*1	ug/L		115	70 - 130	23	20
1,2,3-Trichloropropane	5.00	5.33		ug/L		107	70 - 130	8	20
1,2,4-Trichlorobenzene	5.00	5.37	*1	ug/L		107	70 - 130	24	20
1,2,4-Trimethylbenzene	5.00	5.69		ug/L		114	70 - 130	9	20
1,2-Dichloroethane	5.00	5.73		ug/L		115	70 - 130	6	20
1,2-Dichloropropane	5.00	5.48		ug/L		110	70 - 130	8	20
1,3,5-Trimethylbenzene	5.00	5.32		ug/L		106	70 - 130	6	20
1,3-Dichloropropane	5.00	5.56		ug/L		111	70 - 130	10	20
2,2-Dichloropropane	5.00	4.62		ug/L		92	70 - 130	2	20
2-Butanone (MEK)	50.0	56.1		ug/L		112	70 - 130	11	20
4-Methyl-2-pentanone (MIBK)	50.0	60.3		ug/L		121	70 - 130	10	20
Acetone	50.0	57.0	J	ug/L		114	70 - 130	10	20
Benzene	5.00	5.64		ug/L		113	70 - 130	9	20
Bromobenzene	5.00	5.27		ug/L		105	70 - 130	8	20
Bromochloromethane	5.00	5.88		ug/L		118	70 - 130	6	20
Bromodichloromethane	5.00	5.45		ug/L		109	70 - 130	5	20
Bromoform	5.00	5.37		ug/L		107	70 - 130	6	20
Bromomethane (Methyl Bromide)	5.00	6.13		ug/L		123	70 - 130	18	20
Carbon disulfide	5.00	5.42		ug/L		108	70 - 130	8	20
Carbon tetrachloride	5.00	4.76		ug/L		95	70 - 130	3	20
Chlorobenzene	5.00	5.97		ug/L		119	70 - 130	9	20
Chlorodibromomethane	5.00	5.54		ug/L		111	70 - 130	6	20
Dichloromethane	5.00	5.84		ug/L		117	70 - 130	7	20
cis-1,3-Dichloropropene	5.00	5.06		ug/L		101	70 - 130	11	20
Ethylbenzene	5.00	5.37		ug/L		107	70 - 130	10	20
Hexachlorobutadiene	5.00	5.23		ug/L		105	70 - 130	10	20
Isopropylbenzene	5.00	5.31		ug/L		106	70 - 130	10	20
m,p-Xylenes	10.0	11.8		ug/L		118	70 - 130	8	20

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCSD 380-19830/6
Matrix: Water
Analysis Batch: 19830

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	5.83		ug/L		117	70 - 130	7	20
Methyl-tert-butyl Ether (MTBE)	5.00	5.46		ug/L		109	70 - 130	8	20
Naphthalene	5.00	5.29	*1	ug/L		106	70 - 130	26	20
n-Butylbenzene	5.00	5.17	*1	ug/L		103	70 - 130	21	20
N-Propylbenzene	5.00	5.54		ug/L		111	70 - 130	8	20
o-Dichlorobenzene (1,2-DCB)	5.00	6.04		ug/L		121	70 - 130	18	20
o-Chlorotoluene	5.00	5.86		ug/L		117	70 - 130	10	20
o-Xylene	5.00	5.67		ug/L		113	70 - 130	8	20
p-Chlorotoluene	5.00	6.29		ug/L		126	70 - 130	8	20
p-Dichlorobenzene (1,4-DCB)	5.00	5.88		ug/L		118	70 - 130	7	20
p-Isopropyltoluene	5.00	5.34		ug/L		107	70 - 130	9	20
sec-Butylbenzene	5.00	5.40		ug/L		108	70 - 130	9	20
Styrene	5.00	5.75		ug/L		115	70 - 130	7	20
Tert-amyl methyl ether	5.00	5.60		ug/L		112	70 - 130	6	20
Tert-butyl ethyl ether	5.00	5.54		ug/L		111	70 - 130	10	20
tert-Butylbenzene	5.00	5.20		ug/L		104	70 - 130	11	20
Tetrachloroethene (PCE)	5.00	5.04		ug/L		101	70 - 130	9	20
Toluene	5.00	5.47		ug/L		109	70 - 130	8	20
1,3-Dichloropropene, Total	10.0	9.79		ug/L		98	70 - 130	8	20
Xylenes, Total	15.0	17.5		ug/L		116	70 - 130	8	20
trans-1,2-Dichloroethylene	5.00	5.38		ug/L		108	70 - 130	7	20
trans-1,3-Dichloropropene	5.00	4.73		ug/L		95	70 - 130	6	20
Trichloroethylene (TCE)	5.00	5.28		ug/L		106	70 - 130	7	20
Trichlorofluoromethane (Freon 11)	5.00	5.05		ug/L		101	70 - 130	8	20
Vinyl Chloride (VC)	5.00	5.07		ug/L		101	70 - 130	6	20
Trichlorotrifluoroethane	5.00	4.32		ug/L		86	70 - 130	1	20
Bromoethane	5.00	5.96		ug/L		119	70 - 130	8	20
Diisopropyl ether	5.00	5.69		ug/L		114	70 - 130	7	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	100		70 - 130
Toluene-d8 (Surr)	109		70 - 130

Lab Sample ID: MRL 380-19830/3
Matrix: Water
Analysis Batch: 19830

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	0.500	0.366	J	ug/L		73	50 - 150
Vinyl Chloride (VC)	0.250	0.230	J	ug/L		92	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	79		70 - 130

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MRL 380-19830/4
Matrix: Water
Analysis Batch: 19830

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.500	0.536		ug/L		107	50 - 150
1,1,1-Trichloroethane	0.500	0.447	J	ug/L		89	50 - 150
1,1,2,2-Tetrachloroethane	0.500	0.662		ug/L		132	50 - 150
1,1,2-Trichloroethane	0.500	0.531		ug/L		106	50 - 150
1,1-Dichloroethane	0.500	0.595		ug/L		119	50 - 150
1,1-Dichlorethylene	0.500	0.496	J	ug/L		99	50 - 150
1,1-Dichloropropene	0.500	0.437	J	ug/L		87	50 - 150
1,2,3-Trichlorobenzene	0.500	0.620		ug/L		124	50 - 150
1,2,3-Trichloropropane	0.500	0.656		ug/L		131	50 - 150
1,2,4-Trichlorobenzene	0.500	0.611		ug/L		122	50 - 150
1,2,4-Trimethylbenzene	0.500	0.501		ug/L		100	50 - 150
1,2-Dichloroethane	0.500	0.587		ug/L		117	50 - 150
1,2-Dichloropropane	0.500	0.569		ug/L		114	50 - 150
1,3,5-Trimethylbenzene	0.500	0.496	J	ug/L		99	50 - 150
1,3-Dichloropropane	0.500	0.538		ug/L		108	50 - 150
2,2-Dichloropropane	0.500	0.552		ug/L		110	50 - 150
2-Butanone (MEK)	5.00	5.89		ug/L		118	50 - 150
4-Methyl-2-pentanone (MIBK)	5.00	4.56	J	ug/L		91	50 - 150
Acetone	5.00	7.12	J	ug/L		142	50 - 150
Benzene	0.500	0.592		ug/L		118	50 - 150
Bromobenzene	0.500	0.667		ug/L		133	50 - 150
Bromochloromethane	0.500	0.621		ug/L		124	50 - 150
Bromodichloromethane	0.500	0.528		ug/L		106	50 - 150
Bromoform	0.500	0.708		ug/L		142	50 - 150
Bromomethane (Methyl Bromide)	0.500	0.594		ug/L		119	50 - 150
Carbon disulfide	0.500	0.490	J	ug/L		98	50 - 150
Carbon tetrachloride	0.500	0.465	J	ug/L		93	50 - 150
Chlorobenzene	0.500	0.530		ug/L		106	50 - 150
Chlorodibromomethane	0.500	0.528		ug/L		106	50 - 150
Dichloromethane	0.500	0.624		ug/L		125	50 - 150
cis-1,3-Dichloropropene	0.500	0.477	J	ug/L		95	50 - 150
Ethylbenzene	0.500	0.451	J	ug/L		90	50 - 150
Hexachlorobutadiene	0.500	0.489	J	ug/L		98	50 - 150
Isopropylbenzene	0.500	0.497	J	ug/L		99	50 - 150
m,p-Xylenes	1.00	0.859		ug/L		86	50 - 150
m-Dichlorobenzene (1,3-DCB)	0.500	0.653		ug/L		131	50 - 150
Methyl-tert-butyl Ether (MTBE)	0.500	0.527		ug/L		105	50 - 150
Naphthalene	0.500	0.550		ug/L		110	50 - 150
n-Butylbenzene	0.500	0.498	J	ug/L		100	50 - 150
N-Propylbenzene	0.500	0.432	J	ug/L		86	50 - 150
o-Dichlorobenzene (1,2-DCB)	0.500	0.641		ug/L		128	50 - 150
o-Chlorotoluene	0.500	0.555		ug/L		111	50 - 150
o-Xylene	0.500	0.457	J	ug/L		91	50 - 150
p-Chlorotoluene	0.500	0.486	J	ug/L		97	50 - 150
p-Dichlorobenzene (1,4-DCB)	0.500	0.616		ug/L		123	50 - 150
p-Isopropyltoluene	0.500	0.465	J	ug/L		93	50 - 150
sec-Butylbenzene	0.500	0.446	J	ug/L		89	50 - 150
Styrene	0.500	0.408	J	ug/L		82	50 - 150

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MRL 380-19830/4
Matrix: Water
Analysis Batch: 19830

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Tert-amyl methyl ether	0.500	0.584	J	ug/L		117	50 - 150
Tert-butyl ethyl ether	0.500	0.545	J	ug/L		109	50 - 150
tert-Butylbenzene	0.500	0.456	J	ug/L		91	50 - 150
Tetrachloroethene (PCE)	0.500	0.487	J	ug/L		97	50 - 150
Toluene	0.500	0.506		ug/L		101	50 - 150
1,3-Dichloropropene, Total	1.00	0.914		ug/L		91	50 - 150
Xylenes, Total	1.50	1.32		ug/L		88	50 - 150
trans-1,2-Dichloroethylene	0.500	0.575		ug/L		115	50 - 150
trans-1,3-Dichloropropene	0.500	0.437	J	ug/L		87	50 - 150
Trichloroethylene (TCE)	0.500	0.553		ug/L		111	50 - 150
Trichlorofluoromethane (Freon 11)	0.500	0.336	J	ug/L		67	50 - 150
Vinyl Chloride (VC)	0.500	0.513		ug/L		103	50 - 150
Trichlorotrifluoroethane	0.500	0.297	J	ug/L		59	50 - 150
Bromoethane	0.500	0.623		ug/L		125	50 - 150
Diisopropyl ether	0.500	0.600	J	ug/L		120	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	101		70 - 130
Toluene-d8 (Surr)	87		70 - 130

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

Lab Sample ID: MB 380-20018/5
Matrix: Water
Analysis Batch: 20018

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			10/07/22 16:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		10/07/22 16:21	1
4-Bromofluorobenzene (Surr)	95		70 - 130		10/07/22 16:21	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		10/07/22 16:21	1

Lab Sample ID: LCS 380-20018/2
Matrix: Water
Analysis Batch: 20018

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	6.38		ug/L		128	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	95		70 - 130
1,2-Dichloroethane-d4 (Surr)	108		70 - 130

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCSD 380-20018/3
Matrix: Water
Analysis Batch: 20018

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	5.37		ug/L		107	70 - 130	17	20
LCSD LCSD									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	99		70 - 130						
4-Bromofluorobenzene (Surr)	93		70 - 130						
1,2-Dichloroethane-d4 (Surr)	111		70 - 130						

Lab Sample ID: MRL 380-20018/4
Matrix: Water
Analysis Batch: 20018

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Tertiary Butyl Alcohol (TBA)	2.00	2.43		ug/L		121	50 - 150		
MRL MRL									
Surrogate	%Recovery	Qualifier	Limits						
Toluene-d8 (Surr)	100		50 - 150						
4-Bromofluorobenzene (Surr)	95		50 - 150						
1,2-Dichloroethane-d4 (Surr)	111		50 - 150						

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

Lab Sample ID: MB 380-20129/1-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20129

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
2,4'-DDE	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
2,4'-DDT	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
2,4-Dinitrotoluene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
2,6-Dinitrotoluene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
4,4'-DDD	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
4,4'-DDE	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
4,4'-DDT	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Acenaphthene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Acenaphthylene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Acetochlor	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Alachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
alpha-BHC	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
alpha-Chlordane	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Anthracene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:04	1
Atrazine	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Benz(a)anthracene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Benzo[a]pyrene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:04	1
Benzo[b]fluoranthene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:04	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Benzo[k]fluoranthene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:04	1
beta-BHC	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MB 380-20129/1-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20129

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		10/08/22 12:31	10/10/22 13:04	1
Bromacil	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Butachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Butylbenzylphthalate	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:04	1
Caffeine	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Chlorobenzilate	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Chloroneb	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Chlorpyrifos	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Chrysene	ND		0.020	ug/L		10/08/22 12:31	10/10/22 13:04	1
delta-BHC	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		10/08/22 12:31	10/10/22 13:04	1
Diazinon (Qualitative)	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Diclorvos (DDVP)	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Dieldrin	ND		0.20	ug/L		10/08/22 12:31	10/10/22 13:04	1
Diethylphthalate	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:04	1
Dimethoate	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Dimethylphthalate	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:04	1
Di-n-butyl phthalate	ND		0.99	ug/L		10/08/22 12:31	10/10/22 13:04	1
Di-n-octyl phthalate	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Endosulfan I (Alpha)	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Endosulfan II (Beta)	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Endosulfan sulfate	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Endrin	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Endrin aldehyde	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
EPTC	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Fluoranthene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Fluorene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
gamma-BHC (Lindane)	ND		0.039	ug/L		10/08/22 12:31	10/10/22 13:04	1
gamma-Chlordane	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Heptachlor	ND		0.039	ug/L		10/08/22 12:31	10/10/22 13:04	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Hexachlorobenzene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Isophorone	ND		0.49	ug/L		10/08/22 12:31	10/10/22 13:04	1
Malathion	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Methoxychlor	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Metolachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Metribuzin	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Molinate	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Naphthalene	ND		0.30	ug/L		10/08/22 12:31	10/10/22 13:04	1
Parathion	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Phenanthrene	ND		0.039	ug/L		10/08/22 12:31	10/10/22 13:04	1
Propachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Pyrene	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Simazine	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MB 380-20129/1-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20129

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Terbacil	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Terbutylazine	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
Thiobencarb	ND		0.20	ug/L		10/08/22 12:31	10/10/22 13:04	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		10/08/22 12:31	10/10/22 13:04	1
trans-Nonachlor	ND		0.049	ug/L		10/08/22 12:31	10/10/22 13:04	1
Trifluralin	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
1-Methylnaphthalene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1
2-Methylnaphthalene	ND		0.099	ug/L		10/08/22 12:31	10/10/22 13:04	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.16	T J N	ug/L		2.45	124-18-5	10/08/22 12:31	10/10/22 13:04	1
Tetradecanoic acid	0.587	T J N	ug/L		5.86	544-63-8	10/08/22 12:31	10/10/22 13:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	96		70 - 130	10/08/22 12:31	10/10/22 13:04	1
Perylene-d12	92		70 - 130	10/08/22 12:31	10/10/22 13:04	1
Triphenylphosphate	106		70 - 130	10/08/22 12:31	10/10/22 13:04	1

Lab Sample ID: LCS 380-20129/3-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.98	2.02		ug/L		102	70 - 130
2,4'-DDE	1.98	1.99		ug/L		100	70 - 130
2,4'-DDT	1.98	2.03		ug/L		103	70 - 130
2,4-Dinitrotoluene	1.98	1.75		ug/L		89	70 - 130
2,6-Dinitrotoluene	1.98	1.77		ug/L		90	70 - 130
4,4'-DDD	1.98	2.07		ug/L		105	70 - 130
4,4'-DDE	1.98	2.00		ug/L		101	70 - 130
4,4'-DDT	1.98	1.90		ug/L		96	70 - 130
Acenaphthene	1.98	1.81		ug/L		92	70 - 130
Acenaphthylene	1.98	1.68		ug/L		85	70 - 130
Acetochlor	1.98	1.82		ug/L		92	70 - 130
Alachlor	1.98	1.94		ug/L		98	70 - 130
alpha-BHC	1.98	2.08		ug/L		105	70 - 130
alpha-Chlordane	1.98	1.57		ug/L		80	70 - 130
Anthracene	1.98	1.89		ug/L		96	70 - 130
Atrazine	1.98	1.96		ug/L		99	70 - 130
Benz(a)anthracene	1.98	2.11		ug/L		107	70 - 130
Benzo[a]pyrene	1.98	1.93		ug/L		98	70 - 130
Benzo[b]fluoranthene	1.98	2.13		ug/L		108	70 - 130
Benzo[g,h,i]perylene	1.98	2.19		ug/L		111	70 - 130
Benzo[k]fluoranthene	1.98	2.16		ug/L		109	70 - 130
beta-BHC	1.98	1.99		ug/L		101	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	1.93		ug/L		98	70 - 130
Bromacil	1.98	1.93		ug/L		98	70 - 130
Butachlor	1.98	2.07		ug/L		105	70 - 130

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCS 380-20129/3-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	1.98	2.11		ug/L		107	70 - 130
Caffeine	1.98	1.04		ug/L		52	45 - 137
Chlorobenzilate	1.98	2.04		ug/L		103	70 - 130
Chloroneb	1.98	2.08		ug/L		105	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	2.24		ug/L		113	70 - 130
Chlorpyrifos	1.98	2.15		ug/L		109	70 - 130
Chrysene	1.98	2.11		ug/L		107	70 - 130
delta-BHC	1.98	1.94		ug/L		98	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.07		ug/L		105	70 - 130
Diazinon (Qualitative)	1.98	1.66		ug/L		84	15 - 132
Dibenz(a,h)anthracene	1.98	2.33		ug/L		118	70 - 130
Diclorvos (DDVP)	1.98	2.12		ug/L		107	70 - 130
Dieldrin	1.98	2.17		ug/L		110	70 - 130
Diethylphthalate	1.98	1.96		ug/L		99	70 - 130
Dimethoate	1.98	0.914		ug/L		46	35 - 100
Dimethylphthalate	1.98	1.95		ug/L		99	70 - 130
Di-n-butyl phthalate	3.95	4.08		ug/L		103	70 - 130
Di-n-octyl phthalate	1.98	1.88		ug/L		95	70 - 130
Endosulfan I (Alpha)	1.98	2.05		ug/L		104	70 - 130
Endosulfan II (Beta)	1.98	2.35		ug/L		119	70 - 130
Endosulfan sulfate	1.98	2.30		ug/L		116	70 - 130
Endrin	1.98	2.06		ug/L		104	70 - 130
Endrin aldehyde	1.98	1.56		ug/L		79	70 - 130
EPTC	1.98	1.87		ug/L		94	70 - 130
Fluoranthene	1.98	2.15		ug/L		109	70 - 130
Fluorene	1.98	1.89		ug/L		96	70 - 130
gamma-BHC (Lindane)	1.98	2.06		ug/L		104	70 - 130
gamma-Chlordane	1.98	1.59		ug/L		80	70 - 130
Heptachlor	1.98	2.02		ug/L		102	70 - 130
Heptachlor epoxide (isomer B)	1.98	1.59		ug/L		81	70 - 130
Hexachlorobenzene	1.98	1.83		ug/L		93	70 - 130
Hexachlorocyclopentadiene	1.98	2.13		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	2.25		ug/L		114	70 - 130
Isophorone	1.98	1.98		ug/L		100	70 - 130
Malathion	1.98	2.05		ug/L		104	70 - 130
Methoxychlor	1.98	2.15		ug/L		109	70 - 130
Metolachlor	1.98	2.10		ug/L		106	70 - 130
Metribuzin	1.98	1.39		ug/L		71	70 - 130
Molinate	1.98	1.94		ug/L		98	70 - 130
Naphthalene	1.98	1.82		ug/L		92	70 - 130
Parathion	1.98	2.01		ug/L		102	70 - 130
Pendimethalin (Penoxaline)	1.98	1.98		ug/L		100	70 - 130
Phenanthrene	1.98	1.94		ug/L		98	70 - 130
Propachlor	1.98	2.12		ug/L		107	70 - 130
Pyrene	1.98	2.18		ug/L		110	70 - 130
Simazine	1.98	1.99		ug/L		101	70 - 130
Terbacil	1.98	1.96		ug/L		99	70 - 130
Terbutylazine	1.98	1.95		ug/L		99	70 - 130
Thiobencarb	1.98	1.98		ug/L		100	70 - 130

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCS 380-20129/3-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-Nonachlor	1.98	2.02		ug/L		102	70 - 130
Trifluralin	1.98	2.03		ug/L		103	70 - 130
1-Methylnaphthalene	1.98	1.83		ug/L		93	70 - 130
2-Methylnaphthalene	1.98	1.84		ug/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	95		70 - 130
Perylene-d12	94		70 - 130
Triphenylphosphate	103		70 - 130

Lab Sample ID: LCSD 380-20129/4-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
2,4'-DDD	1.97	1.99		ug/L		101	70 - 130	1	20
2,4'-DDE	1.97	1.97		ug/L		100	70 - 130	1	20
2,4'-DDT	1.97	2.10		ug/L		106	70 - 130	3	20
2,4-Dinitrotoluene	1.97	1.68		ug/L		85	70 - 130	4	20
2,6-Dinitrotoluene	1.97	1.67		ug/L		85	70 - 130	6	20
4,4'-DDD	1.97	2.10		ug/L		106	70 - 130	1	20
4,4'-DDE	1.97	2.04		ug/L		103	70 - 130	2	20
4,4'-DDT	1.97	1.94		ug/L		98	70 - 130	2	20
Acenaphthene	1.97	1.80		ug/L		91	70 - 130	1	20
Acenaphthylene	1.97	1.67		ug/L		85	70 - 130	1	20
Acetochlor	1.97	1.79		ug/L		91	70 - 130	2	20
Alachlor	1.97	1.93		ug/L		98	70 - 130	1	20
alpha-BHC	1.97	2.05		ug/L		104	70 - 130	1	20
alpha-Chlordane	1.97	1.53		ug/L		78	70 - 130	3	20
Anthracene	1.97	1.90		ug/L		96	70 - 130	1	20
Atrazine	1.97	1.94		ug/L		98	70 - 130	1	20
Benz(a)anthracene	1.97	2.09		ug/L		106	70 - 130	1	20
Benzo[a]pyrene	1.97	1.94		ug/L		98	70 - 130	0	20
Benzo[b]fluoranthene	1.97	2.06		ug/L		105	70 - 130	3	20
Benzo[g,h,i]perylene	1.97	2.10		ug/L		106	70 - 130	4	20
Benzo[k]fluoranthene	1.97	2.12		ug/L		108	70 - 130	2	20
beta-BHC	1.97	1.97		ug/L		100	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	1.97	1.93		ug/L		98	70 - 130	0	20
Bromacil	1.97	1.85		ug/L		94	70 - 130	4	20
Butachlor	1.97	2.05		ug/L		104	70 - 130	1	20
Butylbenzylphthalate	1.97	2.03		ug/L		103	70 - 130	4	20
Caffeine	1.97	1.01		ug/L		51	45 - 137	3	20
Chlorobenzilate	1.97	2.01		ug/L		102	70 - 130	1	20
Chloroneb	1.97	2.04		ug/L		103	70 - 130	2	20
Chlorothalonil (Draconil, Bravo)	1.97	2.19		ug/L		111	70 - 130	2	20
Chlorpyrifos	1.97	2.12		ug/L		108	70 - 130	1	20
Chrysene	1.97	2.10		ug/L		106	70 - 130	1	20
delta-BHC	1.97	1.92		ug/L		97	70 - 130	1	20

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCSD 380-20129/4-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Di(2-ethylhexyl)adipate	1.97	2.05		ug/L		104	70 - 130	1	20
Diazinon (Qualitative)	1.97	1.64		ug/L		83	15 - 132	1	20
Dibenz(a,h)anthracene	1.97	2.21		ug/L		112	70 - 130	5	20
Diclorvos (DDVP)	1.97	2.02		ug/L		102	70 - 130	5	20
Dieldrin	1.97	2.13		ug/L		108	70 - 130	2	20
Diethylphthalate	1.97	1.93		ug/L		98	70 - 130	2	20
Dimethoate	1.97	0.896		ug/L		45	35 - 100	2	20
Dimethylphthalate	1.97	1.93		ug/L		98	70 - 130	1	20
Di-n-butyl phthalate	3.94	4.39		ug/L		111	70 - 130	8	20
Di-n-octyl phthalate	1.97	1.86		ug/L		94	70 - 130	1	20
Endosulfan I (Alpha)	1.97	2.10		ug/L		106	70 - 130	3	20
Endosulfan II (Beta)	1.97	2.24		ug/L		113	70 - 130	5	20
Endosulfan sulfate	1.97	2.29		ug/L		116	70 - 130	0	20
Endrin	1.97	2.09		ug/L		106	70 - 130	1	20
Endrin aldehyde	1.97	1.55		ug/L		79	70 - 130	0	20
EPTC	1.97	1.86		ug/L		94	70 - 130	0	20
Fluoranthene	1.97	2.12		ug/L		107	70 - 130	2	20
Fluorene	1.97	1.89		ug/L		96	70 - 130	0	20
gamma-BHC (Lindane)	1.97	2.07		ug/L		105	70 - 130	0	20
gamma-Chlordane	1.97	1.61		ug/L		82	70 - 130	2	20
Heptachlor	1.97	2.02		ug/L		102	70 - 130	0	20
Heptachlor epoxide (isomer B)	1.97	1.62		ug/L		82	70 - 130	1	20
Hexachlorobenzene	1.97	1.77		ug/L		90	70 - 130	4	20
Hexachlorocyclopentadiene	1.97	2.16		ug/L		109	70 - 130	1	20
Indeno[1,2,3-cd]pyrene	1.97	2.19		ug/L		111	70 - 130	3	20
Isophorone	1.97	1.92		ug/L		98	70 - 130	3	20
Malathion	1.97	2.04		ug/L		103	70 - 130	1	20
Methoxychlor	1.97	2.11		ug/L		107	70 - 130	2	20
Metolachlor	1.97	2.04		ug/L		104	70 - 130	3	20
Metribuzin	1.97	1.58		ug/L		80	70 - 130	13	20
Molinate	1.97	1.90		ug/L		96	70 - 130	2	20
Naphthalene	1.97	1.79		ug/L		91	70 - 130	2	20
Parathion	1.97	1.96		ug/L		99	70 - 130	2	20
Pendimethalin (Penoxaline)	1.97	2.01		ug/L		102	70 - 130	2	20
Phenanthrene	1.97	1.93		ug/L		98	70 - 130	0	20
Propachlor	1.97	2.07		ug/L		105	70 - 130	2	20
Pyrene	1.97	2.17		ug/L		110	70 - 130	1	20
Simazine	1.97	1.94		ug/L		98	70 - 130	3	20
Terbacil	1.97	1.89		ug/L		96	70 - 130	4	20
Terbutylazine	1.97	2.02		ug/L		103	70 - 130	4	20
Thiobencarb	1.97	1.92		ug/L		97	70 - 130	3	20
trans-Nonachlor	1.97	2.14		ug/L		109	70 - 130	6	20
Trifluralin	1.97	2.04		ug/L		103	70 - 130	0	20
1-Methylnaphthalene	1.97	1.80		ug/L		91	70 - 130	1	20
2-Methylnaphthalene	1.97	1.82		ug/L		92	70 - 130	1	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	95		70 - 130

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCSD 380-20129/4-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 20129

<i>Surrogate</i>	<i>LCS D</i>	<i>LCS D</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
<i>Perylene-d12</i>	94		70 - 130
<i>Triphenylphosphate</i>	101		70 - 130

Lab Sample ID: MRL 380-20129/2-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20129

<i>Analyte</i>	<i>Spike</i>	<i>MRL</i>	<i>MRL</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>			<i>Limits</i>	<i>Limits</i>
2,4'-DDD	0.0985	0.109		ug/L		111	50 - 150
2,4'-DDE	0.0985	0.0952	J	ug/L		97	50 - 150
2,4'-DDT	0.0985	0.0929	J	ug/L		94	50 - 150
2,4-Dinitrotoluene	0.0985	0.0728	J	ug/L		74	50 - 150
2,6-Dinitrotoluene	0.0985	0.0825	J	ug/L		84	50 - 150
4,4'-DDD	0.0985	0.102		ug/L		103	50 - 150
4,4'-DDE	0.0985	0.115		ug/L		117	50 - 150
4,4'-DDT	0.0985	0.110		ug/L		112	50 - 150
Acenaphthene	0.0985	0.0995		ug/L		101	50 - 150
Acenaphthylene	0.0985	0.0762	J	ug/L		77	50 - 150
Acetochlor	0.0492	0.0457	J	ug/L		93	50 - 150
Alachlor	0.0492	0.0670		ug/L		136	50 - 150
alpha-BHC	0.0985	0.0970	J	ug/L		99	50 - 150
alpha-Chlordane	0.0492	0.0514		ug/L		104	50 - 150
Anthracene	0.0197	ND		ug/L		86	50 - 150
Atrazine	0.0492	0.0485	J	ug/L		99	50 - 150
Benz(a)anthracene	0.0492	0.0508		ug/L		103	50 - 150
Benzo[a]pyrene	0.0197	0.0168	J	ug/L		85	50 - 150
Benzo[b]fluoranthene	0.0197	0.0210		ug/L		107	50 - 150
Benzo[g,h,i]perylene	0.0492	0.0466	J	ug/L		95	50 - 150
Benzo[k]fluoranthene	0.0197	0.0201		ug/L		102	50 - 150
beta-BHC	0.0985	0.0962	J	ug/L		98	50 - 150
Bis(2-ethylhexyl) phthalate	0.591	0.743		ug/L		126	50 - 150
Bromacil	0.0985	0.143		ug/L		145	50 - 150
Butachlor	0.0492	0.0548		ug/L		111	50 - 150
Butylbenzylphthalate	0.148	0.189	J	ug/L		128	50 - 150
Caffeine	0.0492	0.0440	J	ug/L		89	50 - 150
Chlorobenzilate	0.0985	0.118		ug/L		120	50 - 150
Chloroneb	0.0985	0.0965	J	ug/L		98	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0985	0.0879	J	ug/L		89	50 - 150
Chlorpyrifos	0.0492	0.0508		ug/L		103	50 - 150
Chrysene	0.0197	0.0230		ug/L		117	50 - 150
delta-BHC	0.0985	0.109		ug/L		111	50 - 150
Di(2-ethylhexyl)adipate	0.295	0.349	J	ug/L		118	50 - 150
Diazinon (Qualitative)	0.0985	0.0986		ug/L		100	15 - 132
Dibenz(a,h)anthracene	0.0492	0.0488	J	ug/L		99	50 - 150
Diclorvos (DDVP)	0.0492	0.0530		ug/L		108	50 - 150
Dieldrin	0.0985	0.111	J	ug/L		113	50 - 150
Diethylphthalate	0.148	0.221	J	ug/L		150	50 - 150
Dimethoate	0.0985	0.0529	J	ug/L		54	35 - 100

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MRL 380-20129/2-A
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Dimethylphthalate	0.295	0.290	J	ug/L		98	50 - 150
Di-n-butyl phthalate	0.295	0.410	J	ug/L		139	49 - 243
Di-n-octyl phthalate	0.0985	0.0933	J	ug/L		95	50 - 150
Endosulfan I (Alpha)	0.0985	0.0926	J	ug/L		94	50 - 150
Endosulfan II (Beta)	0.0985	0.108		ug/L		110	50 - 150
Endosulfan sulfate	0.0985	0.0864	J	ug/L		88	50 - 150
Endrin	0.0985	0.131		ug/L		133	50 - 150
Endrin aldehyde	0.0985	ND		ug/L		81	50 - 150
EPTC	0.0985	0.0973	J	ug/L		99	50 - 150
Fluoranthene	0.0492	0.0494	J	ug/L		100	50 - 150
Fluorene	0.0492	0.0491		ug/L		100	50 - 150
gamma-BHC (Lindane)	0.0492	0.0425		ug/L		86	50 - 150
gamma-Chlordane	0.0492	0.0463	J	ug/L		94	50 - 150
Heptachlor	0.0394	0.0544		ug/L		138	50 - 150
Heptachlor epoxide (isomer B)	0.0492	0.0532		ug/L		108	50 - 150
Hexachlorobenzene	0.0492	0.0834	^3+	ug/L		169	50 - 150
Hexachlorocyclopentadiene	0.0492	0.0490		ug/L		100	50 - 150
Indeno[1,2,3-cd]pyrene	0.0492	0.0466	J	ug/L		95	50 - 150
Isophorone	0.0985	0.104	J	ug/L		106	50 - 150
Malathion	0.0985	0.0841	J	ug/L		85	50 - 150
Methoxychlor	0.0985	0.132		ug/L		134	50 - 150
Metolachlor	0.0492	0.0534		ug/L		108	50 - 150
Metribuzin	0.0492	0.0414	J	ug/L		84	50 - 150
Molinate	0.0985	0.106		ug/L		107	50 - 150
Naphthalene	0.0985	0.107	J	ug/L		108	50 - 150
Parathion	0.0985	0.124		ug/L		126	50 - 150
Pendimethalin (Penoxaline)	0.0985	0.124		ug/L		126	50 - 150
Phenanthrene	0.0197	0.0225	J	ug/L		114	50 - 150
Propachlor	0.0492	0.0511		ug/L		104	50 - 150
Pyrene	0.0492	0.0507		ug/L		103	50 - 150
Simazine	0.0492	0.0512		ug/L		104	50 - 150
Terbacil	0.0985	0.102		ug/L		104	50 - 150
Terbutylazine	0.0985	0.130		ug/L		132	50 - 150
Thiobencarb	0.0985	0.116	J	ug/L		118	50 - 150
trans-Nonachlor	0.0492	0.0379	J	ug/L		77	50 - 150
Trifluralin	0.0985	0.0948	J	ug/L		96	50 - 150
1-Methylnaphthalene	0.0985	0.109		ug/L		111	50 - 150
2-Methylnaphthalene	0.0985	0.104		ug/L		105	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	90		70 - 130
Triphenylphosphate	106		70 - 130

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23130-1 MS

Matrix: Water

Analysis Batch: 20196

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Prep Type: Total/NA

Prep Batch: 20129

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.95	2.03		ug/L		104	70 - 130
2,4'-DDE	ND		1.95	2.00		ug/L		103	70 - 130
2,4'-DDT	ND		1.95	2.18		ug/L		112	70 - 130
2,4-Dinitrotoluene	ND		1.95	1.69		ug/L		87	70 - 130
2,6-Dinitrotoluene	ND		1.95	1.69		ug/L		87	70 - 130
4,4'-DDD	ND		1.95	2.22		ug/L		114	70 - 130
4,4'-DDE	ND		1.95	2.07		ug/L		107	70 - 130
4,4'-DDT	ND		1.95	2.01		ug/L		103	70 - 130
Acenaphthene	ND		1.95	1.77		ug/L		91	70 - 130
Acenaphthylene	ND		1.95	1.68		ug/L		86	70 - 130
Acetochlor	ND		1.95	1.83		ug/L		94	70 - 130
Alachlor	ND		1.95	1.95		ug/L		100	70 - 130
alpha-BHC	ND		1.95	2.05		ug/L		105	70 - 130
alpha-Chlordane	ND		1.95	1.65		ug/L		85	70 - 130
Anthracene	ND	F1	1.95	1.22	F1	ug/L		63	70 - 130
Atrazine	ND		1.95	1.99		ug/L		102	70 - 130
Benz(a)anthracene	ND		1.95	2.02		ug/L		104	70 - 130
Benzo[a]pyrene	ND		1.95	1.66		ug/L		85	70 - 130
Benzo[b]fluoranthene	ND		1.95	2.09		ug/L		107	70 - 130
Benzo[g,h,i]perylene	ND		1.95	2.24		ug/L		115	70 - 130
Benzo[k]fluoranthene	ND		1.95	2.23		ug/L		115	70 - 130
beta-BHC	ND		1.95	1.97		ug/L		101	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.95	1.96		ug/L		101	70 - 130
Bromacil	ND		1.95	2.01		ug/L		103	70 - 130
Butachlor	ND		1.95	2.17		ug/L		112	70 - 130
Butylbenzylphthalate	ND		1.95	2.17		ug/L		111	70 - 130
Caffeine	ND		1.95	1.11		ug/L		57	46 - 144
Chlorobenzilate	ND		1.95	2.19		ug/L		112	70 - 130
Chloroneb	ND		1.95	2.06		ug/L		106	70 - 130
Chlorothalonil (Draconil, Bravo)	ND		1.95	2.20		ug/L		113	70 - 130
Chlorpyrifos	ND		1.95	2.15		ug/L		111	70 - 130
Chrysene	ND		1.95	2.11		ug/L		108	70 - 130
delta-BHC	ND		1.95	1.91		ug/L		98	70 - 130
Di(2-ethylhexyl)adipate	ND		1.95	2.14		ug/L		110	70 - 130
Diazinon (Qualitative)	ND		1.95	1.69		ug/L		87	15 - 132
Dibenz(a,h)anthracene	ND		1.95	2.28		ug/L		117	70 - 130
Diclorvos (DDVP)	ND		1.95	2.09		ug/L		107	70 - 130
Dieldrin	ND		1.95	2.28		ug/L		114	70 - 130
Diethylphthalate	ND		1.95	1.94		ug/L		96	70 - 130
Dimethoate	ND		1.95	0.952		ug/L		49	34 - 111
Dimethylphthalate	ND		1.95	1.94		ug/L		100	70 - 130
Di-n-butyl phthalate	ND		3.89	4.22		ug/L		108	70 - 130
Di-n-octyl phthalate	ND		1.95	1.84		ug/L		94	70 - 130
Endosulfan I (Alpha)	ND		1.95	2.08		ug/L		107	70 - 130
Endosulfan II (Beta)	ND		1.95	2.41		ug/L		124	70 - 130
Endosulfan sulfate	ND		1.95	2.40		ug/L		123	70 - 130
Endrin	ND		1.95	2.06		ug/L		106	70 - 130
Endrin aldehyde	ND		1.95	1.65		ug/L		85	70 - 130

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23130-1 MS

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 20196

Prep Batch: 20129

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
EPTC	ND		1.95	1.92		ug/L		99	70 - 130
Fluoranthene	ND		1.95	2.18		ug/L		112	70 - 130
Fluorene	ND		1.95	1.87		ug/L		96	70 - 130
gamma-BHC (Lindane)	ND		1.95	2.07		ug/L		107	70 - 130
gamma-Chlordane	ND		1.95	1.68		ug/L		86	70 - 130
Heptachlor	ND		1.95	2.04		ug/L		105	70 - 130
Heptachlor epoxide (isomer B)	ND		1.95	1.62		ug/L		83	70 - 130
Hexachlorobenzene	ND	^3+	1.95	1.78		ug/L		92	70 - 130
Hexachlorocyclopentadiene	ND		1.95	2.13		ug/L		109	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.95	2.29		ug/L		118	70 - 130
Isophorone	ND		1.95	1.93		ug/L		99	70 - 130
Malathion	ND		1.95	2.20		ug/L		113	70 - 130
Methoxychlor	ND		1.95	2.15		ug/L		110	70 - 130
Metolachlor	ND		1.95	2.17		ug/L		112	70 - 130
Metribuzin	ND		1.95	1.69		ug/L		87	70 - 130
Molinate	ND		1.95	1.92		ug/L		99	70 - 130
Naphthalene	ND		1.95	1.78		ug/L		92	70 - 130
Parathion	ND		1.95	2.05		ug/L		105	70 - 130
Pendimethalin (Penoxaline)	ND		1.95	2.07		ug/L		106	70 - 130
Phenanthrene	ND		1.95	1.93		ug/L		99	70 - 130
Propachlor	ND		1.95	2.07		ug/L		107	70 - 130
Pyrene	ND		1.95	2.22		ug/L		114	70 - 130
Simazine	ND		1.95	1.99		ug/L		102	70 - 130
Terbacil	ND		1.95	1.95		ug/L		100	70 - 130
Terbutylazine	ND		1.95	2.03		ug/L		104	70 - 130
Thiobencarb	ND		1.95	1.97		ug/L		101	70 - 130
trans-Nonachlor	ND		1.95	2.25		ug/L		116	70 - 130
Trifluralin	ND		1.95	1.96		ug/L		101	70 - 130
1-Methylnaphthalene	ND		1.95	1.80		ug/L		92	70 - 130
2-Methylnaphthalene	ND		1.95	1.82		ug/L		94	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Nitro-m-xylene	96		70 - 130
Perylene-d12	94		70 - 130
Triphenylphosphate	109		70 - 130

Lab Sample ID: 380-23269-B-1-A DU

Client Sample ID: Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 20196

Prep Batch: 20129

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
2,4'-DDD	ND		ND		ug/L		NC	20	
2,4'-DDE	ND		ND		ug/L		NC	20	
2,4'-DDT	ND		ND		ug/L		NC	20	
2,4-Dinitrotoluene	ND		ND		ug/L		NC	20	
2,6-Dinitrotoluene	ND		ND		ug/L		NC	20	
4,4'-DDD	ND		ND		ug/L		NC	20	
4,4'-DDE	ND		ND		ug/L		NC	20	

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23269-B-1-A DU
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
4,4'-DDT	ND		ND		ug/L		NC	20
Acenaphthene	ND		ND		ug/L		NC	20
Acenaphthylene	ND		ND		ug/L		NC	20
Acetochlor	ND		ND		ug/L		NC	20
Alachlor	ND		ND		ug/L		NC	20
alpha-BHC	ND		ND		ug/L		NC	20
alpha-Chlordane	ND		ND		ug/L		NC	20
Anthracene	ND		ND		ug/L		NC	20
Atrazine	ND		ND		ug/L		NC	20
Benz(a)anthracene	ND		ND		ug/L		NC	20
Benzo[a]pyrene	ND		ND		ug/L		NC	20
Benzo[b]fluoranthene	ND		ND		ug/L		NC	20
Benzo[g,h,i]perylene	ND		ND		ug/L		NC	20
Benzo[k]fluoranthene	ND		ND		ug/L		NC	20
beta-BHC	ND		ND		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	ND		ND		ug/L		NC	20
Bromacil	ND		ND		ug/L		NC	20
Butachlor	ND		ND		ug/L		NC	20
Butylbenzylphthalate	ND		ND		ug/L		NC	20
Caffeine	ND		ND		ug/L		NC	20
Chlorobenzilate	ND		ND		ug/L		NC	20
Chloroneb	ND		ND		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	ND		ND		ug/L		NC	20
Chlorpyrifos	ND		ND		ug/L		NC	20
Chrysene	ND		ND		ug/L		NC	20
delta-BHC	ND		ND		ug/L		NC	20
Di(2-ethylhexyl)adipate	ND		ND		ug/L		NC	20
Diazinon (Qualitative)	ND		ND		ug/L		NC	20
Dibenz(a,h)anthracene	ND		ND		ug/L		NC	20
Diclorvos (DDVP)	ND		ND		ug/L		NC	20
Dieldrin	ND		ND		ug/L		NC	20
Diethylphthalate	ND		ND		ug/L		NC	20
Dimethoate	ND		ND		ug/L		NC	20
Dimethylphthalate	ND		ND		ug/L		NC	20
Di-n-butyl phthalate	ND		ND		ug/L		NC	20
Di-n-octyl phthalate	ND		ND		ug/L		NC	20
Endosulfan I (Alpha)	ND		ND		ug/L		NC	20
Endosulfan II (Beta)	ND		ND		ug/L		NC	20
Endosulfan sulfate	ND		ND		ug/L		NC	20
Endrin	ND		ND		ug/L		NC	20
Endrin aldehyde	ND		ND		ug/L		NC	20
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	ND		ND		ug/L		NC	20
gamma-BHC (Lindane)	ND		ND		ug/L		NC	20
gamma-Chlordane	ND		ND		ug/L		NC	20
Heptachlor	ND		ND		ug/L		NC	20
Heptachlor epoxide (isomer B)	ND		ND		ug/L		NC	20
Hexachlorobenzene	ND	^3+	ND		ug/L		NC	20

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23269-B-1-A DU
Matrix: Water
Analysis Batch: 20196

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20129

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Hexachlorocyclopentadiene	ND		ND		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	ND		ND		ug/L		NC	20
Isophorone	ND		ND		ug/L		NC	20
Malathion	ND		ND		ug/L		NC	20
Methoxychlor	ND		ND		ug/L		NC	20
Metolachlor	ND		ND		ug/L		NC	20
Metribuzin	ND		ND		ug/L		NC	20
Molinate	ND		ND		ug/L		NC	20
Naphthalene	ND		ND		ug/L		NC	20
Parathion	ND		ND		ug/L		NC	20
Pendimethalin (Penoxaline)	ND		ND		ug/L		NC	20
Phenanthrene	ND		ND		ug/L		NC	20
Propachlor	ND		ND		ug/L		NC	20
Pyrene	ND		ND		ug/L		NC	20
Simazine	ND		ND		ug/L		NC	20
Terbacil	ND		ND		ug/L		NC	20
Terbutylazine	0.18		0.184		ug/L		0	20
Thiobencarb	ND		ND		ug/L		NC	20
Total Permethrin (mixed isomers)	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20
1-Methylnaphthalene	ND		ND		ug/L		NC	20
2-Methylnaphthalene	ND		ND		ug/L		NC	20
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
2-Nitro-m-xylene	96		70 - 130					
Perylene-d12	93		70 - 130					
Triphenylphosphate	116		70 - 130					

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

Lab Sample ID: MBL 380-20612/4-A
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 20612

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2,3-Trichloropropane	ND		0.040	ug/L		10/13/22 14:08	10/13/22 18:13	1
1,2-Dibromo-3-Chloropropane	ND		0.010	ug/L		10/13/22 14:08	10/13/22 18:13	1
1,2-Dibromoethane	ND		0.010	ug/L		10/13/22 14:08	10/13/22 18:13	1
		MBL	MBL					
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dibromopropane (Surr)	93		60 - 140			10/13/22 14:08	10/13/22 18:13	1

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCS 380-20612/3-A
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20612

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.200	0.181		ug/L		91	70 - 130
1,2-Dibromo-3-Chloropropane	0.200	0.169		ug/L		85	70 - 130
1,2-Dibromoethane	0.200	0.185		ug/L		93	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dibromopropane (Surr)	92		60 - 140				

Lab Sample ID: MRL 380-20612/1-A
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20612

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0400	0.0242	J	ug/L		60	60 - 140
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
1,2-Dibromopropane (Surr)	92		60 - 140				

Lab Sample ID: MRL 380-20612/2-A
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 20612

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	0.0500	0.0332	J	ug/L		66	60 - 140
1,2-Dibromo-3-Chloropropane	0.0100	0.0116		ug/L		116	60 - 140
1,2-Dibromoethane	0.0100	0.00714	J	ug/L		71	60 - 140
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
1,2-Dibromopropane (Surr)	94		60 - 140				

Lab Sample ID: 380-22826-B-1-A MS
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 20612

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	ND		1.27	1.26		ug/L		99	65 - 135
1,2-Dibromo-3-Chloropropane	ND		0.254	0.236		ug/L		93	65 - 135
1,2-Dibromoethane	ND		0.254	0.248		ug/L		98	65 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dibromopropane (Surr)	100		60 - 140						

Lab Sample ID: 380-22826-A-2-A DU
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20612

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,2,3-Trichloropropane	ND		ND		ug/L		NC	20

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QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-22826-A-2-A DU
Matrix: Water
Analysis Batch: 20737

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 20612

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
1,2-Dibromo-3-Chloropropane	ND		ND		ug/L		NC	20
1,2-Dibromoethane	ND		ND		ug/L		NC	20
DU DU								
Surrogate	%Recovery	Qualifier	Limits					
1,2-Dibromopropane (Surr)	97		60 - 140					

Method: 505 - Organochlorine Pesticides/PCBs (GC)

Lab Sample ID: MB 380-19979/7-A
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 19979

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	ND		0.0020	ug/L		10/07/22 11:58	10/07/22 16:54	1
Dieldrin	ND		0.0020	ug/L		10/07/22 11:58	10/07/22 16:54	1
Toxaphene	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
Alachlor	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
Chlordane (n.o.s.)	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
Endrin	ND		0.010	ug/L		10/07/22 11:58	10/07/22 16:54	1
Heptachlor	ND		0.010	ug/L		10/07/22 11:58	10/07/22 16:54	1
Heptachlor epoxide	ND		0.010	ug/L		10/07/22 11:58	10/07/22 16:54	1
gamma-BHC (Lindane)	ND		0.010	ug/L		10/07/22 11:58	10/07/22 16:54	1
Methoxychlor	ND		0.050	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1016	ND		0.070	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1221	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1232	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1242	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1248	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1254	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
PCB-1260	ND		0.070	ug/L		10/07/22 11:58	10/07/22 16:54	1
Polychlorinated biphenyls, Total	ND		0.10	ug/L		10/07/22 11:58	10/07/22 16:54	1
MB MB								
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Tetrachloro-m-xylene	107		70 - 130	10/07/22 11:58	10/07/22 16:54	1		

Lab Sample ID: MRL 380-19979/2-A
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19979

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	0.00200	ND		ug/L		86	50 - 150
Dieldrin	0.00200	ND		ug/L		83	50 - 150
MRL MRL							
Surrogate	%Recovery	Qualifier	Limits				
Tetrachloro-m-xylene	98		70 - 130				

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MRL 380-19979/3-A
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19979

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Aldrin	0.0100	0.00754		ug/L		75	50 - 150
Dieldrin	0.0100	0.00762		ug/L		76	50 - 150
Alachlor	0.100	0.120		ug/L		120	50 - 150
Endrin	0.0100	0.0119		ug/L		119	50 - 150
Heptachlor	0.0100	0.0120		ug/L		120	50 - 150
Heptachlor epoxide	0.0100	0.0116		ug/L		116	50 - 150
gamma-BHC (Lindane)	0.0100	0.0122		ug/L		122	50 - 150
Methoxychlor	0.0500	0.0629		ug/L		126	50 - 150

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

Lab Sample ID: MRL 380-19979/4-A
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19979

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	0.100	0.0982	J	ug/L		98	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Tetrachloro-m-xylene	103		70 - 130

Lab Sample ID: MRL 380-19979/5-A
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19979

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Toxaphene	0.500	0.513		ug/L		103	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Tetrachloro-m-xylene	103		70 - 130

Lab Sample ID: MRL 380-19979/6-A
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 19979

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chlordane (n.o.s.)	0.100	0.0854	J	ug/L		85	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Tetrachloro-m-xylene	103		70 - 130

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23130-1 MS

Matrix: Water

Analysis Batch: 20456

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Prep Type: Total/NA

Prep Batch: 19979

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Aldrin	ND		0.0197	0.0133		ug/L		68		65 - 135
Dieldrin	0.043		0.0197	0.0575		ug/L		75		65 - 135
Alachlor	ND		0.197	0.188		ug/L		95		65 - 135
Endrin	ND		0.0197	0.0192		ug/L		72		65 - 135
Heptachlor	ND		0.0197	0.0189		ug/L		96		65 - 135
Heptachlor epoxide	0.013		0.0197	0.0270		ug/L		69		65 - 135
gamma-BHC (Lindane)	ND		0.0197	0.0191		ug/L		97		65 - 135
Methoxychlor	ND		0.0986	0.0991		ug/L		101		65 - 135
				MS	MS					
Surrogate	%Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	96		70 - 130							

Lab Sample ID: 380-23130-1 MS

Matrix: Water

Analysis Batch: 20456

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Prep Type: Total/NA

Prep Batch: 19979

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Toxaphene	ND		2.47	2.35		ug/L		95		65 - 135
				MS	MS					
Surrogate	%Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	102		70 - 130							

Lab Sample ID: 380-23186-B-1-A MS

Matrix: Water

Analysis Batch: 20456

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19979

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Aldrin	ND		0.114	0.0921		ug/L		81		65 - 135
Dieldrin	ND		0.114	0.0977		ug/L		86		65 - 135
Alachlor	ND		1.14	0.967		ug/L		85		65 - 135
Endrin	ND		0.114	0.0963		ug/L		84		65 - 135
Heptachlor	ND		0.114	0.0937		ug/L		82		65 - 135
Heptachlor epoxide	ND		0.114	0.0947		ug/L		83		65 - 135
gamma-BHC (Lindane)	ND		0.114	0.0973		ug/L		85		65 - 135
Methoxychlor	ND		0.570	0.488		ug/L		86		65 - 135
				MS	MS					
Surrogate	%Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	96		70 - 130							

Lab Sample ID: 380-23186-D-1-A MS

Matrix: Water

Analysis Batch: 20456

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 19979

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Chlordane (n.o.s.)	ND		0.501	0.450		ug/L		90		65 - 135

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23186-D-1-A MS
Matrix: Water
Analysis Batch: 20456

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 19979

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

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-19729/39
Matrix: Water
Analysis Batch: 19729

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			10/05/22 21:59	1
Nitrate Nitrite as N	ND		0.050	mg/L			10/05/22 21:59	1
Nitrite as N	ND		0.050	mg/L			10/05/22 21:59	1

Lab Sample ID: LCS 380-19729/42
Matrix: Water
Analysis Batch: 19729

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	2.50		mg/L		100	90 - 110
Nitrate Nitrite as N	3.50	3.49		mg/L		100	90 - 110
Nitrite as N	1.00	0.991		mg/L		99	90 - 110

Lab Sample ID: LCSD 380-19729/43
Matrix: Water
Analysis Batch: 19729

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	2.51		mg/L		101	90 - 110	1	20
Nitrate Nitrite as N	3.50	3.51		mg/L		100	90 - 110	0	20
Nitrite as N	1.00	0.998		mg/L		100	90 - 110	1	20

Lab Sample ID: MRL 380-19729/40
Matrix: Water
Analysis Batch: 19729

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	0.0150	J	mg/L		120	50 - 150
Nitrate Nitrite as N	0.0250	0.0255	J	mg/L		102	50 - 150
Nitrite as N	0.0125	0.0105	J	mg/L		84	50 - 150

Lab Sample ID: MRL 380-19729/41
Matrix: Water
Analysis Batch: 19729

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	0.0491	J	mg/L		98	50 - 150
Nitrate Nitrite as N	0.100	0.0988		mg/L		99	50 - 150
Nitrite as N	0.0500	0.0497	J	mg/L		99	50 - 150

QC Sample Results

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

Job ID: 380-23130-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-23037-A-11 MS

Matrix: Water

Analysis Batch: 19729

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	18.8		mg/L		108	80 - 120
Nitrate Nitrite as N	12		8.75	20.8		mg/L		101	80 - 120
Nitrite as N	ND		2.50	2.04		mg/L		82	80 - 120

Lab Sample ID: 380-23037-A-11 MSD

Matrix: Water

Analysis Batch: 19729

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	18.8		mg/L		109	80 - 120	0	20
Nitrate Nitrite as N	12		8.75	20.8		mg/L		101	80 - 120	0	20
Nitrite as N	ND		2.50	2.03		mg/L		81	80 - 120	0	20

Lab Sample ID: MB 380-19730/39

Matrix: Water

Analysis Batch: 19730

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			10/05/22 21:59	1
Sulfate	ND		0.25	mg/L			10/05/22 21:59	1

Lab Sample ID: LCS 380-19730/42

Matrix: Water

Analysis Batch: 19730

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	26.1		mg/L		104	90 - 110
Sulfate	50.0	51.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 380-19730/43

Matrix: Water

Analysis Batch: 19730

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	26.2		mg/L		105	90 - 110	0	20
Sulfate	50.0	51.8		mg/L		104	90 - 110	1	20

Lab Sample ID: MRL 380-19730/40

Matrix: Water

Analysis Batch: 19730

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	0.157	J	mg/L		126	50 - 150
Sulfate	0.250	0.264		mg/L		106	50 - 150

QC Sample Results

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

Job ID: 380-23130-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 380-19730/41
Matrix: Water
Analysis Batch: 19730

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	0.477	J	mg/L		95	50 - 150
Sulfate	1.00	0.933		mg/L		93	50 - 150

Lab Sample ID: 380-23037-A-11 MS
Matrix: Water
Analysis Batch: 19730

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	220	F1	62.5	266	E F1	mg/L		74	80 - 120
Sulfate	260		125	389		mg/L		105	80 - 120

Lab Sample ID: 380-23037-A-11 MSD
Matrix: Water
Analysis Batch: 19730

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	220	F1	62.5	266	E F1	mg/L		75	80 - 120	0	20
Sulfate	260		125	389		mg/L		105	80 - 120	0	20

Lab Sample ID: MB 380-20073/4
Matrix: Water
Analysis Batch: 20073

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			10/07/22 14:30	1

Lab Sample ID: LCS 380-20073/5
Matrix: Water
Analysis Batch: 20073

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	101		ug/L		101	90 - 110

Lab Sample ID: LCSD 380-20073/6
Matrix: Water
Analysis Batch: 20073

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	99.3		ug/L		99	90 - 110	1	10

Lab Sample ID: MRL 380-20073/3
Matrix: Water
Analysis Batch: 20073

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	5.00	4.60	J	ug/L		92	75 - 125

QC Sample Results

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

Job ID: 380-23130-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-22974-A-2 MS
Matrix: Water
Analysis Batch: 20073

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	160		50.0	221		ug/L		119	80 - 120

Lab Sample ID: 380-22974-A-2 MSD
Matrix: Water
Analysis Batch: 20073

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	160		50.0	221		ug/L		119	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 380-19916/72
Matrix: Water
Analysis Batch: 19916

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			10/06/22 20:22	1
Magnesium	ND		0.10	mg/L			10/06/22 20:22	1
Potassium	ND		1.0	mg/L			10/06/22 20:22	1
Sodium	ND		1.0	mg/L			10/06/22 20:22	1

Lab Sample ID: LCS 380-19916/74
Matrix: Water
Analysis Batch: 19916

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	49.5		mg/L		99	85 - 115
Magnesium	20.0	19.6		mg/L		98	85 - 115
Potassium	20.0	19.8		mg/L		99	85 - 115
Sodium	50.0	49.2		mg/L		98	85 - 115

Lab Sample ID: LCSD 380-19916/75
Matrix: Water
Analysis Batch: 19916

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	49.9		mg/L		100	85 - 115	1	20
Magnesium	20.0	19.8		mg/L		99	85 - 115	1	20
Potassium	20.0	19.9		mg/L		100	85 - 115	1	20
Sodium	50.0	49.1		mg/L		98	85 - 115	0	20

Lab Sample ID: LLCS 380-19916/73
Matrix: Water
Analysis Batch: 19916

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	1.00	0.952	J	mg/L		95	50 - 150
Magnesium	0.100	0.0949	J	mg/L		95	50 - 150
Potassium	1.00	0.633	J	mg/L		63	50 - 150
Sodium	1.00	0.905	J	mg/L		90	50 - 150

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QC Sample Results

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

Job ID: 380-23130-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 380-23032-B-8 MS
Matrix: Water
Analysis Batch: 19916

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	47		50.0	94.7		mg/L		95	70 - 130
Magnesium	14		20.0	33.6		mg/L		99	70 - 130
Potassium	1.1		20.0	22.5		mg/L		107	70 - 130
Sodium	21		50.0	69.1		mg/L		96	70 - 130

Lab Sample ID: 380-23032-B-8 MSD
Matrix: Water
Analysis Batch: 19916

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	47		50.0	94.9		mg/L		95	70 - 130	0	20
Magnesium	14		20.0	33.5		mg/L		98	70 - 130	0	20
Potassium	1.1		20.0	22.5		mg/L		107	70 - 130	0	20
Sodium	21		50.0	69.2		mg/L		96	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 380-19823/1-A
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Arsenic	ND		1.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Beryllium	ND		1.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Cadmium	ND		0.50	ug/L		10/06/22 11:28	10/07/22 12:58	1
Chromium	ND		1.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Copper	ND		2.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Lead	ND		0.50	ug/L		10/06/22 11:28	10/07/22 12:58	1
Nickel	ND		5.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Selenium	ND		5.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Silver	ND		0.50	ug/L		10/06/22 11:28	10/07/22 12:58	1
Thallium	ND		1.0	ug/L		10/06/22 11:28	10/07/22 12:58	1
Zinc	ND		20	ug/L		10/06/22 11:28	10/07/22 12:58	1

Lab Sample ID: LCS 380-19823/3-A
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	51.7		ug/L		103	85 - 115
Arsenic	50.0	51.4		ug/L		103	85 - 115
Beryllium	25.0	25.2		ug/L		101	85 - 115
Cadmium	25.0	25.7		ug/L		103	85 - 115
Chromium	50.0	51.7		ug/L		103	85 - 115
Copper	50.0	54.4		ug/L		109	85 - 115
Lead	50.0	52.2		ug/L		104	85 - 115
Nickel	50.0	53.4		ug/L		107	85 - 115
Selenium	50.0	52.5		ug/L		105	85 - 115

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: LCS 380-19823/3-A
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	25.0	23.9		ug/L		95	85 - 115
Thallium	50.0	51.4		ug/L		103	85 - 115
Zinc	50.0	52.9		ug/L		106	85 - 115

Lab Sample ID: LCSD 380-19823/4-A
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	50.0	51.6		ug/L		103	85 - 115	0	20
Arsenic	50.0	51.2		ug/L		102	85 - 115	0	20
Beryllium	25.0	25.7		ug/L		103	85 - 115	2	20
Cadmium	25.0	25.8		ug/L		103	85 - 115	0	20
Chromium	50.0	51.3		ug/L		103	85 - 115	1	20
Copper	50.0	53.8		ug/L		108	85 - 115	1	20
Lead	50.0	51.8		ug/L		104	85 - 115	1	20
Nickel	50.0	53.6		ug/L		107	85 - 115	0	20
Selenium	50.0	52.2		ug/L		104	85 - 115	1	20
Silver	25.0	24.2		ug/L		97	85 - 115	1	20
Thallium	50.0	51.5		ug/L		103	85 - 115	0	20
Zinc	50.0	52.1		ug/L		104	85 - 115	2	20

Lab Sample ID: LLCS 380-19823/2-A
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.00	0.990	J	ug/L		99	50 - 150
Arsenic	1.00	1.08		ug/L		108	50 - 150
Beryllium	1.00	1.02		ug/L		102	50 - 150
Cadmium	0.500	0.501		ug/L		100	50 - 150
Chromium	1.00	0.927	J	ug/L		93	50 - 150
Copper	2.00	2.06		ug/L		103	50 - 150
Lead	0.500	0.506		ug/L		101	50 - 150
Nickel	5.00	5.12		ug/L		102	50 - 150
Selenium	5.00	5.07		ug/L		101	50 - 150
Silver	0.500	0.451	J	ug/L		90	50 - 150
Thallium	1.00	1.00		ug/L		100	50 - 150
Zinc	20.0	20.9		ug/L		105	50 - 150

Lab Sample ID: 380-23054-A-1-B MS
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		50.0	50.0		ug/L		99	70 - 130
Arsenic	ND		50.0	50.1		ug/L		100	70 - 130
Beryllium	ND		25.0	24.8		ug/L		99	70 - 130
Cadmium	ND		25.0	23.4		ug/L		93	70 - 130

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 380-23054-A-1-B MS
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	ND		50.0	48.2		ug/L		96	70 - 130
Copper	4.6		50.0	51.5		ug/L		94	70 - 130
Lead	ND		50.0	47.2		ug/L		94	70 - 130
Nickel	ND		50.0	48.9		ug/L		92	70 - 130
Selenium	ND		50.0	50.5		ug/L		101	70 - 130
Silver	ND		25.0	20.6		ug/L		82	70 - 130
Thallium	ND		50.0	47.4		ug/L		95	70 - 130
Zinc	ND		50.0	48.2		ug/L		96	70 - 130

Lab Sample ID: 380-23054-A-1-C MSD
Matrix: Water
Analysis Batch: 20055

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 19823

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		50.0	52.3		ug/L		103	70 - 130	4	20
Arsenic	ND		50.0	50.2		ug/L		100	70 - 130	0	20
Beryllium	ND		25.0	25.4		ug/L		101	70 - 130	2	20
Cadmium	ND		25.0	24.2		ug/L		97	70 - 130	4	20
Chromium	ND		50.0	48.6		ug/L		97	70 - 130	1	20
Copper	4.6		50.0	51.7		ug/L		94	70 - 130	1	20
Lead	ND		50.0	47.5		ug/L		95	70 - 130	1	20
Nickel	ND		50.0	48.8		ug/L		92	70 - 130	0	20
Selenium	ND		50.0	50.4		ug/L		101	70 - 130	0	20
Silver	ND		25.0	22.1		ug/L		88	70 - 130	7	20
Thallium	ND		50.0	47.3		ug/L		95	70 - 130	0	20
Zinc	ND		50.0	48.6		ug/L		97	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 570-275275/1-A
Matrix: Water
Analysis Batch: 275613

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 275275

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/22 12:12	10/25/22 11:14	1

Lab Sample ID: LCS 570-275275/2-A
Matrix: Water
Analysis Batch: 275613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 275275

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00800	0.00823		mg/L		103	85 - 115

Lab Sample ID: 380-24143-BM-1-B MS
Matrix: Water
Analysis Batch: 275613

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 275275

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0013		0.00800	0.00913		mg/L		98	85 - 115

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 380-24143-BM-1-C MSD
Matrix: Water
Analysis Batch: 275613

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 275275

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.0013		0.00800	0.00873		mg/L		93	85 - 115	4	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 380-20220/7
Matrix: Water
Analysis Batch: 20220

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		2.0	mg/L			10/07/22 14:41	1
Bicarbonate Alkalinity as CaCO3	ND		2.0	mg/L			10/07/22 14:41	1
Carbonate Alkalinity as CaCO3	ND		2.0	mg/L			10/07/22 14:41	1

Lab Sample ID: LCS 380-20220/5
Matrix: Water
Analysis Batch: 20220

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	100	99.2		mg/L		99	90 - 110

Lab Sample ID: LCSD 380-20220/22
Matrix: Water
Analysis Batch: 20220

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	100	99.9		mg/L		100	90 - 110	1	20

Lab Sample ID: LLCS 380-20220/6
Matrix: Water
Analysis Batch: 20220

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

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

Lab Sample ID: MRL 380-20220/8
Matrix: Water
Analysis Batch: 20220

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	2.00	2.14		mg/L		107	50 - 150

Lab Sample ID: 380-23130-1 MS
Matrix: Water
Analysis Batch: 20220

Client Sample ID: KAAMILO WELLS (331-261-TP008)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	68		100	169		mg/L		101	80 - 120

QC Sample Results

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

Job ID: 380-23130-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 380-23130-1 MSD
Matrix: Water
Analysis Batch: 20220

Client Sample ID: KAAMILO WELLS (331-261-TP008)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	68		100	170		mg/L					

Lab Sample ID: 380-23130-1 DU
Matrix: Water
Analysis Batch: 20220

Client Sample ID: KAAMILO WELLS (331-261-TP008)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	68		68.0		mg/L		0.1	20
Bicarbonate Alkalinity as CaCO3	68		68.0		mg/L		0.1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 380-20223/7
Matrix: Water
Analysis Batch: 20223

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			10/07/22 14:41	1

Lab Sample ID: LCS 380-20223/10
Matrix: Water
Analysis Batch: 20223

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 380-20223/22
Matrix: Water
Analysis Batch: 20223

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	993		umhos/cm		99	90 - 110	1	10

Lab Sample ID: MRL 380-20223/8
Matrix: Water
Analysis Batch: 20223

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

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

Lab Sample ID: 380-23130-1 DU
Matrix: Water
Analysis Batch: 20223

Client Sample ID: KAAMILO WELLS (331-261-TP008)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	580		575		umhos/cm		0.5	20

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MB 380-20025/1
Matrix: Water
Analysis Batch: 20025

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			10/07/22 14:29	1

Lab Sample ID: HLCS 380-20025/5
Matrix: Water
Analysis Batch: 20025

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	710		mg/L		101	80 - 114

Lab Sample ID: LCS 380-20025/4
Matrix: Water
Analysis Batch: 20025

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	175	168		mg/L		96	80 - 114

Lab Sample ID: MRL 380-20025/2
Matrix: Water
Analysis Batch: 20025

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

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

Lab Sample ID: MRL 380-20025/3
Matrix: Water
Analysis Batch: 20025

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

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

Lab Sample ID: 380-23130-1 DU
Matrix: Water
Analysis Batch: 20025

Client Sample ID: KAAMILO WELLS (331-261-TP008)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	370		356		mg/L		4	10

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-20219/40
Matrix: Water
Analysis Batch: 20219

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			10/07/22 21:09	1

QC Sample Results

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

Job ID: 380-23130-1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: MB 380-20219/6
Matrix: Water
Analysis Batch: 20219

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			10/07/22 18:25	1

Lab Sample ID: LCS 380-20219/42
Matrix: Water
Analysis Batch: 20219

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	0.975		mg/L		98	90 - 110

Lab Sample ID: LCSD 380-20219/43
Matrix: Water
Analysis Batch: 20219

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.00	0.979		mg/L		98	90 - 110	0	10

Lab Sample ID: MRL 380-20219/41
Matrix: Water
Analysis Batch: 20219

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	0.0506		mg/L		101	50 - 150

Lab Sample ID: MRL 380-20219/7
Matrix: Water
Analysis Batch: 20219

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	0.0522		mg/L		104	50 - 150

Lab Sample ID: 380-23344-A-11 MS
Matrix: Water
Analysis Batch: 20219

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	ND		1.00	1.12		mg/L		108	80 - 120

Lab Sample ID: 380-23344-A-11 MSD
Matrix: Water
Analysis Batch: 20219

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		1.00	1.11		mg/L		108	80 - 120	0	20

QC Sample Results

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

Job ID: 380-23130-1

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 380-20224/9
Matrix: Water
Analysis Batch: 20224

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.8			SU			10/07/22 14:41	1

Lab Sample ID: LCS 380-20224/10
Matrix: Water
Analysis Batch: 20224

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 380-20224/23
Matrix: Water
Analysis Batch: 20224

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: 380-23130-1 DU
Matrix: Water
Analysis Batch: 20224

Client Sample ID: KAAMILO WELLS (331-261-TP008)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.7		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 380-20008/1
Matrix: Water
Analysis Batch: 20008

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			10/07/22 14:00	1

Lab Sample ID: LCS 380-20008/4
Matrix: Water
Analysis Batch: 20008

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	0.273		mg/L		109	90 - 110

Lab Sample ID: LCSD 380-20008/22
Matrix: Water
Analysis Batch: 20008

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	0.268		mg/L		107	90 - 110	2	20

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: MRL 380-20008/17
Matrix: Water
Analysis Batch: 20008

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	0.0570		mg/L		114	50 - 150

Lab Sample ID: MRL 380-20008/2
Matrix: Water
Analysis Batch: 20008

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	0.0550		mg/L		110	50 - 150

Lab Sample ID: 380-22811-AP-1 MS
Matrix: Water
Analysis Batch: 20008

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	ND		0.250	0.247		mg/L		99	80 - 120

Lab Sample ID: 380-22811-AP-1 MSD
Matrix: Water
Analysis Batch: 20008

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	ND		0.250	0.248		mg/L		99	80 - 120	0	20

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

Lab Sample ID: 100621-B1
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,4,5-Trichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,4,6-Trichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,4-Dichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,4-Dinitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,6-Dichlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,6-Di-tert-butyl-4-methylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2,6-Di-tert-butylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Chloronaphthalene	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Chlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Methyl-4,6-dinitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Methylphenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Nitroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
2-Nitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
3+4-Methylphenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
3-Nitroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 100621-B1
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Bromophenylphenyl ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
4-Chloro-3-methylphenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
4-Chloroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
4-Chlorophenylphenyl ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
4-Nitroaniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
4-Nitrophenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
6-tert-butyl-2,4-dimethylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Acenaphthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Acenaphthylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Aniline	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzidine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzoic Acid	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
Benzyl Alcohol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
Biphenyl	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Bis(2-Chloroethoxy) methane	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Bis(2-Chloroethyl) ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Bis(2-Chloroisopropyl) ether	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Chrysene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Dibenzofuran	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Dibenzothiophene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Fluoranthene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Fluorene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Hexachloroethane	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Naphthalene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Nitrobenzene	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
N-Nitrosodi-n-propylamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
N-Nitrosodiphenylamine	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Pentachlorophenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Perylene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Phenanthrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1
Phenol	ND		0.2	0.1	µg/L		10/10/22 00:00	10/30/22 21:27	1
p-tert-Butylphenol	ND		0.1	0.05	µg/L		10/10/22 00:00	10/30/22 21:27	1
Pyrene	ND		0.005	0.001	µg/L		10/10/22 00:00	10/30/22 21:27	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(2,4,6-Tribromophenol)	56		30 - 130	10/10/22 00:00	10/30/22 21:27	1
(d10-Acenaphthene)	83		27 - 133	10/10/22 00:00	10/30/22 21:27	1

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 100621-B1
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-40004_P

Surrogate	Blank		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
(d10-Phenanthrene)	90		43 - 129	10/10/22 00:00	10/30/22 21:27	1
(d12-Chrysene)	84		52 - 144	10/10/22 00:00	10/30/22 21:27	1
(d12-Perylene)	80		36 - 161	10/10/22 00:00	10/30/22 21:27	1
(d5-Phenol)	40		0 - 130	10/10/22 00:00	10/30/22 21:27	1
(d8-Naphthalene)	73		25 - 125	10/10/22 00:00	10/30/22 21:27	1

Lab Sample ID: 100621-BS1
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylphenanthrene	0.5	0.402		µg/L		80	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.441		µg/L		88	55 - 122
2,4,5-Trichlorophenol	1	0.772		µg/L		77	30 - 130
2,4,6-Trichlorophenol	1	0.876		µg/L		88	30 - 130
2,4-Dichlorophenol	1	0.88		µg/L		88	51 - 117
2,4-Dinitrophenol	1	0.71		µg/L		71	0 - 152
2,6-Dichlorophenol	1	0.928		µg/L		93	30 - 130
2,6-Dimethylnaphthalene	0.5	0.455		µg/L		91	48 - 120
2,6-Di-tert-butyl-4-methylphenol	1	0.638		µg/L		64	50 - 150
2,6-Di-tert-butylphenol	1	0.642		µg/L		64	50 - 150
2-Chloronaphthalene	1	0.845		µg/L		85	53 - 130
2-Chlorophenol	1	0.677		µg/L		68	41 - 120
2-Methyl-4,6-dinitrophenol	1	0.777		µg/L		78	0 - 141
2-Methylnaphthalene	1.5	1.16		µg/L		77	47 - 130
2-Methylphenol	1	0.773		µg/L		77	40 - 117
2-Nitroaniline	1	0.881		µg/L		88	69 - 114
2-Nitrophenol	1	0.611		µg/L		61	40 - 117
3+4-Methylphenol	1	0.864		µg/L		86	0 - 130
3-Nitroaniline	1	0.92		µg/L		92	23 - 137
4-Bromophenylphenyl ether	1	0.864		µg/L		86	61 - 132
4-Chloro-3-methylphenol	1	0.864		µg/L		86	51 - 128
4-Chloroaniline	1	1.2		µg/L		120	50 - 150
4-Chlorophenylphenyl ether	1	0.853		µg/L		85	63 - 130
4-Nitroaniline	1	0.97		µg/L		97	10 - 159
4-Nitrophenol	1	0.47		µg/L		47	10 - 164
6-tert-butyl-2,4-dimethylphenol	1	0.736		µg/L		74	50 - 150
Acenaphthene	1.5	1.49		µg/L		99	53 - 131
Acenaphthylene	1.5	1.53		µg/L		102	43 - 140
Aniline	1	0.613		µg/L		61	50 - 150
Anthracene	1.5	1.52		µg/L		101	58 - 135
Benz[a]anthracene	1.5	1.52		µg/L		101	55 - 145
Benzo[a]pyrene	1.5	1.4		µg/L		93	51 - 143
Benzo[b]fluoranthene	1.5	1.41		µg/L		94	46 - 165
Benzo[e]pyrene	0.5	0.468		µg/L		94	42 - 152
Benzo[g,h,i]perylene	1.5	1.48		µg/L		99	63 - 133
Benzo[k]fluoranthene	1.5	1.5		µg/L		100	56 - 145

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 100621-BS1
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzoic Acid	1	0.407		µg/L		41	2 - 145
Benzyl Alcohol	1	0.821		µg/L		82	43 - 148
Biphenyl	0.5	0.461		µg/L		92	56 - 119
Bis(2-Chloroethoxy) methane	1	0.94		µg/L		94	66 - 122
Bis(2-Chloroethyl) ether	1	0.727		µg/L		73	43 - 127
Bis(2-Chloroisopropyl) ether	1	1.06		µg/L		106	49 - 128
Chrysene	1.5	1.51		µg/L		101	56 - 141
Dibenz[a,h]anthracene	1.5	1.39		µg/L		93	55 - 150
Dibenzo[a,l]pyrene	0.5	0.393		µg/L		79	50 - 150
Dibenzofuran	1	0.731		µg/L		73	50 - 150
Dibenzothiophene	0.5	0.477		µg/L		95	75 - 113
Disalicylidenepropanediamine	50	30.8		µg/L		62	50 - 150
Fluoranthene	1.5	0.901		µg/L		60	60 - 146
Fluorene	1.5	1.55		µg/L		103	58 - 131
Hexachloroethane	1	0.79		µg/L		79	27 - 130
Indeno[1,2,3-cd]pyrene	1.5	1.39		µg/L		93	50 - 151
Naphthalene	1.5	1.07		µg/L		71	41 - 126
Nitrobenzene	1	0.891		µg/L		89	54 - 111
N-Nitrosodi-n-propylamine	1	0.955		µg/L		95	61 - 152
N-Nitrosodiphenylamine	1	0.789		µg/L		79	49 - 142
Pentachlorophenol	1	0.613		µg/L		61	36 - 111
Perylene	0.5	0.407		µg/L		81	48 - 141
Phenanthrene	1.5	1.53		µg/L		102	67 - 127
Phenol	1	0.626		µg/L		63	29 - 114
p-tert-Butylphenol	1	1.13		µg/L		113	50 - 150
Pyrene	1.5	0.897		µg/L		60	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(2,4,6-Tribromophenol)	55		30 - 130
(d10-Acenaphthene)	83		27 - 133
(d10-Phenanthrene)	93		43 - 129
(d12-Chrysene)	97		52 - 144
(d12-Perylene)	84		36 - 161
(d5-Phenol)	33		0 - 130
(d8-Naphthalene)	76		25 - 125

Lab Sample ID: 100621-BS2
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.395		µg/L		79	31 - 128	2	30
1-Methylphenanthrene	0.5	0.411		µg/L		82	66 - 127	2	30
2,3,5-Trimethylnaphthalene	0.5	0.476		µg/L		95	55 - 122	8	30
2,4,5-Trichlorophenol	1	0.943		µg/L		94	30 - 130	20	30
2,4,6-Trichlorophenol	1	0.978		µg/L		98	30 - 130	11	30
2,4-Dichlorophenol	1	0.963		µg/L		96	51 - 117	9	30
2,4-Dinitrophenol	1	0.757		µg/L		76	0 - 152	7	30

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 100621-BS2
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
2,6-Dichlorophenol	1	1.03		µg/L		103	30 - 130	10	30	
2,6-Dimethylnaphthalene	0.5	0.505		µg/L		101	48 - 120	10	30	
2,6-Di-tert-butyl-4-methylphenol	1	0.705		µg/L		70	50 - 150	9	30	
2,6-Di-tert-butylphenol	1	0.739		µg/L		74	50 - 150	14	30	
2-Chloronaphthalene	1	1.01		µg/L		101	53 - 130	18	30	
2-Chlorophenol	1	0.754		µg/L		75	41 - 120	10	30	
2-Methyl-4,6-dinitrophenol	1	0.882		µg/L		88	0 - 141	12	30	
2-Methylnaphthalene	1.5	1.13		µg/L		75	47 - 130	3	30	
2-Methylphenol	1	0.885		µg/L		88	40 - 117	13	30	
2-Nitroaniline	1	1.12		µg/L		112	69 - 114	24	30	
2-Nitrophenol	1	0.79		µg/L		79	40 - 117	26	30	
3+4-Methylphenol	1	0.867		µg/L		87	0 - 130	1	30	
3-Nitroaniline	1	1.16		µg/L		116	23 - 137	23	30	
4-Bromophenylphenyl ether	1	0.988		µg/L		99	61 - 132	14	30	
4-Chloro-3-methylphenol	1	0.98		µg/L		98	51 - 128	13	30	
4-Chloroaniline	1	1.25		µg/L		125	50 - 150	4	30	
4-Chlorophenylphenyl ether	1	0.996		µg/L		100	63 - 130	16	30	
4-Nitroaniline	1	1.29		µg/L		129	10 - 159	28	30	
4-Nitrophenol	1	0.553		µg/L		55	10 - 164	16	30	
6-tert-butyl-2,4-dimethylphenol	1	0.786		µg/L		79	50 - 150	7	30	
Acenaphthene	1.5	1.62		µg/L		108	53 - 131	9	30	
Acenaphthylene	1.5	1.63		µg/L		109	43 - 140	7	30	
Aniline	1	0.727		µg/L		73	50 - 150	18	30	
Anthracene	1.5	1.58		µg/L		105	58 - 135	4	30	
Benz[a]anthracene	1.5	1.61		µg/L		107	55 - 145	6	30	
Benzo[a]pyrene	1.5	1.4		µg/L		93	51 - 143	0	30	
Benzo[b]fluoranthene	1.5	1.49		µg/L		99	46 - 165	5	30	
Benzo[e]pyrene	0.5	0.486		µg/L		97	42 - 152	3	30	
Benzo[g,h,i]perylene	1.5	1.53		µg/L		102	63 - 133	3	30	
Benzo[k]fluoranthene	1.5	1.57		µg/L		105	56 - 145	5	30	
Benzoic Acid	1	0.441		µg/L		44	2 - 145	7	30	
Benzyl Alcohol	1	0.794		µg/L		79	43 - 148	4	30	
Biphenyl	0.5	0.495		µg/L		99	56 - 119	7	30	
Bis(2-Chloroethoxy) methane	1	0.997		µg/L		100	66 - 122	6	30	
Bis(2-Chloroethyl) ether	1	0.79		µg/L		79	43 - 127	8	30	
Bis(2-Chloroisopropyl) ether	1	0.969		µg/L		97	49 - 128	9	30	
Chrysene	1.5	1.57		µg/L		105	56 - 141	4	30	
Dibenz[a,h]anthracene	1.5	1.43		µg/L		95	55 - 150	2	30	
Dibenzo[a,l]pyrene	0.5	0.396		µg/L		79	50 - 150	0	30	
Dibenzofuran	1	0.884		µg/L		88	50 - 150	19	30	
Dibenzothiophene	0.5	0.506		µg/L		101	75 - 113	6	30	
Disalicylidenepropanediamine	50	38.4		µg/L		77	50 - 150	22	30	
Fluoranthene	1.5	0.98		µg/L		65	60 - 146	8	30	
Fluorene	1.5	1.71		µg/L		114	58 - 131	10	30	
Hexachloroethane	1	0.77		µg/L		77	27 - 130	3	30	
Indeno[1,2,3-cd]pyrene	1.5	1.44		µg/L		96	50 - 151	3	30	
Naphthalene	1.5	1		µg/L		67	41 - 126	6	30	
Nitrobenzene	1	0.884		µg/L		88	54 - 111	1	30	
N-Nitrosodi-n-propylamine	1	0.979		µg/L		98	61 - 152	2	30	

Eurofins Eaton Monrovia

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 100621-BS2
Matrix: BlankMatrix
Analysis Batch: O-40004

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-40004_P

Analyte	Spike	LCS DUP	LCS DUP	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Added	Result	Qualifier						
N-Nitrosodiphenylamine	1	0.983		µg/L		98	49 - 142	21	30
Pentachlorophenol	1	0.738		µg/L		74	36 - 111	19	30
Perylene	0.5	0.407		µg/L		81	48 - 141	0	30
Phenanthrene	1.5	1.62		µg/L		108	67 - 127	6	30
Phenol	1	0.706		µg/L		71	29 - 114	12	30
p-tert-Butylphenol	1	1.12		µg/L		112	50 - 150	1	30
Pyrene	1.5	0.872		µg/L		58	54 - 156	3	30

Surrogate	LCS DUP	LCS DUP	Limits
	%Recovery	Qualifier	
(2,4,6-Tribromophenol)	61		30 - 130
(d10-Acenaphthene)	92		27 - 133
(d10-Phenanthrene)	98		43 - 129
(d12-Chrysene)	103		52 - 144
(d12-Perylene)	87		36 - 161
(d5-Phenol)	35		0 - 130
(d8-Naphthalene)	74		25 - 125

Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO

Lab Sample ID: 22DSJ032WB
Matrix: WATER
Analysis Batch: 22DSJ032W

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
DIESEL	ND	U	0.025		mg/L			10/17/22 12:50	1
JP5	ND	U	0.05		mg/L			10/17/22 12:50	1
JP8	ND	U	0.05		mg/L			10/17/22 12:50	1
MOTOR OIL	ND	U	0.05		mg/L			10/17/22 12:50	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
BROMOBENZENE					10/17/22 12:50	1
HEXACOSANE					10/17/22 12:50	1

Lab Sample ID: 22DSJ032WL
Matrix: WATER
Analysis Batch: 22DSJ032W

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

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
DIESEL	2.5	2.38		mg/L		95	50 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
BROMOBENZENE	100		60 - 130
HEXACOSANE	94		60 - 130

QC Sample Results

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

Job ID: 380-23130-1

Method: 8015 Diesel LL (EAL) and Motor Oil - 8015 - TPH DRO/ORO (Continued)

Lab Sample ID: 22J5J032WL
Matrix: WATER
Analysis Batch: 22DSJ032W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.5	2.24		mg/L		90	30 - 160
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
BROMOBENZENE	81		60 - 130				
HEXACOSANE	86		60 - 130				

Lab Sample ID: 22J8J032WL
Matrix: WATER
Analysis Batch: 22DSJ032W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP8	2.5	2.47		mg/L		99	30 - 160
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
BROMOBENZENE	100		60 - 130				
HEXACOSANE	90		60 - 130				

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 22MEJ001WB
Matrix: WATER
Analysis Batch: 22MEJ001W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			10/08/22 10:43	1

Lab Sample ID: 22MEJ001WL
Matrix: WATER
Analysis Batch: 22MEJ001W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
ETHANOL	10000	10300		ug/L		103	60 - 130

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

Lab Sample ID: 22VGH7J02B
Matrix: WATER
Analysis Batch: 22VGH7J02

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			10/08/22 10:48	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								10/08/22 10:48	1

QC Sample Results

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

Job ID: 380-23130-1

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

Lab Sample ID: 22VGH7J02L
Matrix: WATER
Analysis Batch: 22VGH7J02

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.536		mg/L		107	60 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	108		70 - 130				

Lab Sample ID: 22VGH7J03B
Matrix: WATER
Analysis Batch: 22VGH7J03

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			10/11/22 12:28	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								10/11/22 12:28	1

Lab Sample ID: 22VGH7J03L
Matrix: WATER
Analysis Batch: 22VGH7J03

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.5	0.439		mg/L		88	60 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	106		70 - 130				

QC Association Summary

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

Job ID: 380-23130-1

GC/MS VOA

Analysis Batch: 19830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	524.2	
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	524.2	
MB 380-19830/8	Method Blank	Total/NA	Water	524.2	
LCS 380-19830/5	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-19830/6	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-19830/3	Lab Control Sample	Total/NA	Water	524.2	
MRL 380-19830/4	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 20018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	524.2	
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	524.2	
MB 380-20018/5	Method Blank	Total/NA	Water	524.2	
LCS 380-20018/2	Lab Control Sample	Total/NA	Water	524.2	
LCSD 380-20018/3	Lab Control Sample Dup	Total/NA	Water	524.2	
MRL 380-20018/4	Lab Control Sample	Total/NA	Water	524.2	

Analysis Batch: 20169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	524.2	
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	524.2	

GC/MS Semi VOA

Prep Batch: 20129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	525.2	
MB 380-20129/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-20129/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-20129/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-20129/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	525.2	
380-23269-B-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 20196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	525.2	20129
MB 380-20129/1-A	Method Blank	Total/NA	Water	525.2	20129
LCS 380-20129/3-A	Lab Control Sample	Total/NA	Water	525.2	20129
LCSD 380-20129/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	20129
MRL 380-20129/2-A	Lab Control Sample	Total/NA	Water	525.2	20129
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	525.2	20129
380-23269-B-1-A DU	Duplicate	Total/NA	Water	525.2	20129

GC Semi VOA

Prep Batch: 19979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	505	
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	505	
MB 380-19979/7-A	Method Blank	Total/NA	Water	505	
MRL 380-19979/2-A	Lab Control Sample	Total/NA	Water	505	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-23130-1

GC Semi VOA (Continued)

Prep Batch: 19979 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-19979/3-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-19979/4-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-19979/5-A	Lab Control Sample	Total/NA	Water	505	
MRL 380-19979/6-A	Lab Control Sample	Total/NA	Water	505	
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	505	
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	505	
380-23186-B-1-A MS	Matrix Spike	Total/NA	Water	505	
380-23186-D-1-A MS	Matrix Spike	Total/NA	Water	505	

Analysis Batch: 20456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	505	19979
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	505	19979
MB 380-19979/7-A	Method Blank	Total/NA	Water	505	19979
MRL 380-19979/2-A	Lab Control Sample	Total/NA	Water	505	19979
MRL 380-19979/3-A	Lab Control Sample	Total/NA	Water	505	19979
MRL 380-19979/4-A	Lab Control Sample	Total/NA	Water	505	19979
MRL 380-19979/5-A	Lab Control Sample	Total/NA	Water	505	19979
MRL 380-19979/6-A	Lab Control Sample	Total/NA	Water	505	19979
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	505	19979
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	505	19979
380-23186-B-1-A MS	Matrix Spike	Total/NA	Water	505	19979
380-23186-D-1-A MS	Matrix Spike	Total/NA	Water	505	19979

Prep Batch: 20612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	504.1	
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	504.1	
MBL 380-20612/4-A	Method Blank	Total/NA	Water	504.1	
LCS 380-20612/3-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-20612/1-A	Lab Control Sample	Total/NA	Water	504.1	
MRL 380-20612/2-A	Lab Control Sample	Total/NA	Water	504.1	
380-22826-B-1-A MS	Matrix Spike	Total/NA	Water	504.1	
380-22826-A-2-A DU	Duplicate	Total/NA	Water	504.1	

Analysis Batch: 20737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	504.1	20612
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	504.1	20612
MBL 380-20612/4-A	Method Blank	Total/NA	Water	504.1	20612
LCS 380-20612/3-A	Lab Control Sample	Total/NA	Water	504.1	20612
MRL 380-20612/1-A	Lab Control Sample	Total/NA	Water	504.1	20612
MRL 380-20612/2-A	Lab Control Sample	Total/NA	Water	504.1	20612
380-22826-B-1-A MS	Matrix Spike	Total/NA	Water	504.1	20612
380-22826-A-2-A DU	Duplicate	Total/NA	Water	504.1	20612

HPLC/IC

Analysis Batch: 19729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	300.0	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-23130-1

HPLC/IC (Continued)

Analysis Batch: 19729 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-19729/39	Method Blank	Total/NA	Water	300.0	
LCS 380-19729/42	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-19729/43	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-19729/40	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-19729/41	Lab Control Sample	Total/NA	Water	300.0	
380-23037-A-11 MS	Matrix Spike	Total/NA	Water	300.0	
380-23037-A-11 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 19730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	300.0	
MB 380-19730/39	Method Blank	Total/NA	Water	300.0	
LCS 380-19730/42	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-19730/43	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-19730/40	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-19730/41	Lab Control Sample	Total/NA	Water	300.0	
380-23037-A-11 MS	Matrix Spike	Total/NA	Water	300.0	
380-23037-A-11 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 20073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	300.0	
MB 380-20073/4	Method Blank	Total/NA	Water	300.0	
LCS 380-20073/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-20073/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-20073/3	Lab Control Sample	Total/NA	Water	300.0	
380-22974-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
380-22974-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 19823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total Recoverable	Water	200.8	
MB 380-19823/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 380-19823/3-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 380-19823/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
LLCS 380-19823/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
380-23054-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	
380-23054-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Analysis Batch: 19916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	200.7 Rev 4.4	
MB 380-19916/72	Method Blank	Total/NA	Water	200.7 Rev 4.4	
LCS 380-19916/74	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
LCSD 380-19916/75	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	
LLCS 380-19916/73	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	
380-23032-B-8 MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	
380-23032-B-8 MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-23130-1

Metals

Analysis Batch: 20055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total Recoverable	Water	200.8	19823
MB 380-19823/1-A	Method Blank	Total Recoverable	Water	200.8	19823
LCS 380-19823/3-A	Lab Control Sample	Total Recoverable	Water	200.8	19823
LCSD 380-19823/4-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	19823
LLCS 380-19823/2-A	Lab Control Sample	Total Recoverable	Water	200.8	19823
380-23054-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	19823
380-23054-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	19823

Prep Batch: 275275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1 - RA	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	245.1	
MB 570-275275/1-A	Method Blank	Total/NA	Water	245.1	
LCS 570-275275/2-A	Lab Control Sample	Total/NA	Water	245.1	
380-24143-BM-1-B MS	Matrix Spike	Total/NA	Water	245.1	
380-24143-BM-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 275613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1 - RA	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	245.1	275275
MB 570-275275/1-A	Method Blank	Total/NA	Water	245.1	275275
LCS 570-275275/2-A	Lab Control Sample	Total/NA	Water	245.1	275275
380-24143-BM-1-B MS	Matrix Spike	Total/NA	Water	245.1	275275
380-24143-BM-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	275275

General Chemistry

Analysis Batch: 20008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 4500 S2 D	
MB 380-20008/1	Method Blank	Total/NA	Water	SM 4500 S2 D	
LCS 380-20008/4	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
LCSD 380-20008/22	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 D	
MRL 380-20008/17	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
MRL 380-20008/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 D	
380-22811-AP-1 MS	Matrix Spike	Total/NA	Water	SM 4500 S2 D	
380-22811-AP-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 S2 D	

Analysis Batch: 20025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2540C	
MB 380-20025/1	Method Blank	Total/NA	Water	SM 2540C	
HLCS 380-20025/5	Lab Control Sample	Total/NA	Water	SM 2540C	
LCS 380-20025/4	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-20025/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MRL 380-20025/3	Lab Control Sample	Total/NA	Water	SM 2540C	
380-23130-1 DU	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2540C	

Analysis Batch: 20219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 4500 F C	
MB 380-20219/40	Method Blank	Total/NA	Water	SM 4500 F C	

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-23130-1

General Chemistry (Continued)

Analysis Batch: 20219 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 380-20219/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-20219/42	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-20219/43	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-20219/41	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MRL 380-20219/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	
380-23344-A-11 MS	Matrix Spike	Total/NA	Water	SM 4500 F C	
380-23344-A-11 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 20220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2320B	
MB 380-20220/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 380-20220/5	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 380-20220/22	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LLCS 380-20220/6	Lab Control Sample	Total/NA	Water	SM 2320B	
MRL 380-20220/8	Lab Control Sample	Total/NA	Water	SM 2320B	
380-23130-1 MS	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2320B	
380-23130-1 MSD	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2320B	
380-23130-1 DU	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2320B	

Analysis Batch: 20223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2510B	
MB 380-20223/7	Method Blank	Total/NA	Water	SM 2510B	
LCS 380-20223/10	Lab Control Sample	Total/NA	Water	SM 2510B	
LCSD 380-20223/22	Lab Control Sample Dup	Total/NA	Water	SM 2510B	
MRL 380-20223/8	Lab Control Sample	Total/NA	Water	SM 2510B	
380-23130-1 DU	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 2510B	

Analysis Batch: 20224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 4500 H+ B	
MB 380-20224/9	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCS 380-20224/10	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 380-20224/23	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
380-23130-1 DU	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	SM 4500 H+ B	

Subcontract

Analysis Batch: O-40004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	625 PAH Physis LL (EAL) + TICs	O-40004_P
100621-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40004_P
100621-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40004_P
100621-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40004_P

Eurofins Eaton Monrovia

QC Association Summary

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

Job ID: 380-23130-1

Subcontract

Analysis Batch: 22DSJ032W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	8015 Diesel LL (EAL) and Motor Oil	
22DSJ032WB	Method Blank	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22DSJ032WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22J5J032WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	
22J8J032WL	Lab Control Sample	Total/NA	WATER	8015 Diesel LL (EAL) and Motor Oil	

Analysis Batch: 22MEJ001W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	8015 Ethanol	
22MEJ001WB	Method Blank	Total/NA	WATER	8015 Ethanol	
22MEJ001WL	Lab Control Sample	Total/NA	WATER	8015 Ethanol	

Analysis Batch: 22VGH7J02

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7J02B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VGH7J02L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Analysis Batch: 22VGH7J03

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-2	TB: KAAMILO WELLS	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7J03B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VGH7J03L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40004_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23130-1	KAAMILO WELLS (331-261-TP008)	Total/NA	Water	EPA_625	
100621-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
100621-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
100621-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-23130-1

Client Sample ID: KAAMILO WELLS (331-261-TP008)

Lab Sample ID: 380-23130-1

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	19830	P3EE	EA MON	10/06/22 21:53
Total/NA	Analysis	524.2		1	20169	NC	EA MON	10/10/22 15:20
Total/NA	Analysis	524.2		1	20018	P3EE	EA MON	10/07/22 17:28
Total/NA	Prep	525.2			20129	N8NE	EA MON	10/08/22 12:31
Total/NA	Analysis	525.2		1	20196	UPAC	EA MON	10/10/22 13:24
Total/NA	Prep	504.1			20612	K9GY	EA MON	10/13/22 14:08 - 10/13/22 15:03 ¹
Total/NA	Analysis	504.1		1	20737	K9GY	EA MON	10/14/22 00:39
Total/NA	Prep	505			19979	DR5R	EA MON	10/07/22 11:58 - 10/07/22 13:35 ¹
Total/NA	Analysis	505		1	20456	YNB8	EA MON	10/07/22 17:16
Total/NA	Analysis	300.0		5	19729	LM8C	EA MON	10/06/22 00:34
Total/NA	Analysis	300.0		5	19730	LM8C	EA MON	10/06/22 00:34
Total/NA	Analysis	300.0		1	20073	UNJR	EA MON	10/08/22 02:23
Total/NA	Analysis	200.7 Rev 4.4		1	19916	T8RV	EA MON	10/06/22 20:51
Total Recoverable	Prep	200.8			19823	NQM8	EA MON	10/06/22 11:28
Total Recoverable	Analysis	200.8		1	20055	ULAL	EA MON	10/07/22 13:29
Total/NA	Prep	245.1	RA		275275	C0YH	EET CAL 4	10/24/22 12:12
Total/NA	Analysis	245.1	RA	1	275613	C0YH	EET CAL 4	10/25/22 11:42
Total/NA	Analysis	SM 2320B		1	20220	ZYV7	EA MON	10/07/22 18:10
Total/NA	Analysis	SM 2510B		1	20223	ZYV7	EA MON	10/07/22 18:10
Total/NA	Analysis	SM 2540C		1	20025	XLG4	EA MON	10/07/22 14:29
Total/NA	Analysis	SM 4500 F C		1	20219	ZYV7	EA MON	10/07/22 22:59
Total/NA	Analysis	SM 4500 H+ B		1	20224	ZYV7	EA MON	10/07/22 18:10
Total/NA	Analysis	SM 4500 S2 D		1	20008	PK4Q	EA MON	10/07/22 14:00
Total/NA	Prep	EPA_625		1	O-40004_P			10/10/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40004	YC		10/31/22 04:21
Total/NA	Analysis	8015 Diesel LL (EAL) and Motor Oil		1	22DSJ032W	SDees		10/17/22 17:28
Total/NA	Analysis	8015 Ethanol		1	22MEJ001W	ASitu		10/08/22 12:06
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7J02	JChun		10/08/22 23:23

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	524.2		1	19830	P3EE	EA MON	10/06/22 22:14
Total/NA	Analysis	524.2		1	20169	NC	EA MON	10/10/22 15:20
Total/NA	Analysis	524.2		1	20018	P3EE	EA MON	10/07/22 17:51
Total/NA	Prep	504.1			20612	K9GY	EA MON	10/13/22 14:08 - 10/13/22 15:03 ¹
Total/NA	Analysis	504.1		1	20737	K9GY	EA MON	10/14/22 01:14

Eurofins Eaton Monrovia

Lab Chronicle

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

Job ID: 380-23130-1

Client Sample ID: TB: KAAMILO WELLS

Lab Sample ID: 380-23130-2

Date Collected: 10/04/22 10:42

Matrix: Water

Date Received: 10/05/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	505			19979	DR5R	EA MON	10/07/22 11:58 - 10/07/22 13:35 ¹
Total/NA	Analysis	505		1	20456	YNB8	EA MON	10/07/22 18:21
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7J03	JChun		10/11/22 14:11

¹ Completion dates and times are reported or not reported per method requirements or individual lab discretion.

Laboratory References:

- = Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806
- EA MON = Eurofins Eaton Monrovia, 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016, TEL (626)386-1100
- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494



Accreditation/Certification Summary

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

Job ID: 380-23130-1

Laboratory: Eurofins Eaton Monrovia

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-23

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
300.0		Water	Nitrate Nitrite as N
505	505	Water	Polychlorinated biphenyls, Total
524.2		Water	1,3-Dichloropropene, Total
524.2		Water	2-Butanone (MEK)
524.2		Water	4-Methyl-2-pentanone (MIBK)
524.2		Water	Acetone
524.2		Water	Bromoethane
524.2		Water	m,p-Xylenes
524.2		Water	o-Xylene
525.2	525.2	Water	1-Methylnaphthalene
525.2	525.2	Water	2,4'-DDD
525.2	525.2	Water	2,4'-DDE
525.2	525.2	Water	2,4'-DDT
525.2	525.2	Water	2,4-Dinitrotoluene
525.2	525.2	Water	2,6-Dinitrotoluene
525.2	525.2	Water	2-Methylnaphthalene
525.2	525.2	Water	4,4'-DDD
525.2	525.2	Water	4,4'-DDE
525.2	525.2	Water	4,4'-DDT
525.2	525.2	Water	Acenaphthene
525.2	525.2	Water	Acenaphthylene
525.2	525.2	Water	Acetochlor
525.2	525.2	Water	alpha-BHC
525.2	525.2	Water	alpha-Chlordane
525.2	525.2	Water	Anthracene
525.2	525.2	Water	Benz(a)anthracene
525.2	525.2	Water	Benzo[b]fluoranthene
525.2	525.2	Water	Benzo[g,h,i]perylene
525.2	525.2	Water	Benzo[k]fluoranthene
525.2	525.2	Water	beta-BHC
525.2	525.2	Water	Bromacil
525.2	525.2	Water	Butylbenzylphthalate
525.2	525.2	Water	Caffeine
525.2	525.2	Water	Chlorobenzilate
525.2	525.2	Water	Chloroneb
525.2	525.2	Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Water	Chlorpyrifos
525.2	525.2	Water	Chrysene
525.2	525.2	Water	delta-BHC
525.2	525.2	Water	Diazinon (Qualitative)
525.2	525.2	Water	Dibenz(a,h)anthracene
525.2	525.2	Water	Diclorvos (DDVP)
525.2	525.2	Water	Diethylphthalate
525.2	525.2	Water	Dimethoate
525.2	525.2	Water	Dimethylphthalate

Accreditation/Certification Summary

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

Job ID: 380-23130-1

Laboratory: Eurofins Eaton Monrovia (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	Di-n-butyl phthalate
525.2	525.2	Water	Di-n-octyl phthalate
525.2	525.2	Water	Endosulfan I (Alpha)
525.2	525.2	Water	Endosulfan II (Beta)
525.2	525.2	Water	Endosulfan sulfate
525.2	525.2	Water	Endrin aldehyde
525.2	525.2	Water	EPTC
525.2	525.2	Water	Fluoranthene
525.2	525.2	Water	Fluorene
525.2	525.2	Water	gamma-Chlordane
525.2	525.2	Water	Indeno[1,2,3-cd]pyrene
525.2	525.2	Water	Isophorone
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
SM 2320B		Water	Bicarbonate Alkalinity as CaCO ₃
SM 2320B		Water	Carbonate Alkalinity as CaCO ₃
SM 4500 S2 D		Water	Sulfide

Laboratory: Eurofins Calscience

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

Authority	Program	Identification Number	Expiration Date
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	12-01-22
California	State	3082	07-31-23
Nevada	State	CA00111	08-01-23
Oregon	NELAP	4175	02-02-23
USDA	US Federal Programs	P330-20-00034	02-10-23
Washington	State	C916-18	10-12-22 *

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

Method Summary

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

Job ID: 380-23130-1

Method	Method Description	Protocol	Laboratory
524.2	Total Trihalomethanes	EPA-DW	EA MON
524.2	Volatile Organic Compounds (GC/MS SIM)	EPA-DW	EA MON
524.2	Volatile Organic Compounds (GC/MS)	EPA-DW	EA MON
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA MON
504.1	EDB, DBCP and 1,2,3-TCP (GC)	EPA-DW2	EA MON
505	Organochlorine Pesticides/PCBs (GC)	EPA	EA MON
300.0	Anions, Ion Chromatography	EPA	EA MON
200.7 Rev 4.4	Metals (ICP)	EPA	EA MON
200.8	Metals (ICP/MS)	EPA	EA MON
245.1	Mercury (CVAA)	EPA	EET CAL 4
SM 2320B	Alkalinity	SM	EA MON
SM 2510B	Conductivity, Specific Conductance	SM	EA MON
SM 2540C	Solids, Total Dissolved (TDS)	SM	EA MON
SM 4500 F C	Fluoride	SM	EA MON
SM 4500 H+ B	pH	SM	EA MON
SM 4500 S2 D	Sulfide, Total	SM	EA MON
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - Jet Fuel 5 (JP5)	EPA	
8015	8015 - Jet Fuel 8 (JP8)	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
200.8	Preparation, Total Recoverable Metals	EPA	EA MON
245.1	Preparation, Mercury	EPA	EET CAL 4
504.1	Microextraction	EPA-DW	EA MON
505	Extraction, Organochlorine Pesticides/PCBs	EPA	EA MON
525.2	Extraction of Semivolatile Compounds	EPA	EA MON
None	Autocomplete Prep - Metals - No Digestion required	None	EA MON

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 MON = Eurofins Eaton Monrovia, 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016, TEL (626)386-1100

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

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

Job ID: 380-23130-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-23130-1	KAAMILO WELLS (331-261-TP008)	Water	10/04/22 10:42	10/05/22 10:00
380-23130-2	TB: KAAMILO WELLS	Water	10/04/22 10:42	10/05/22 10:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18



LABORATORIES, INC.®

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

Date: 10-27-2022
EMAX Batch No.: 22J072

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-23130

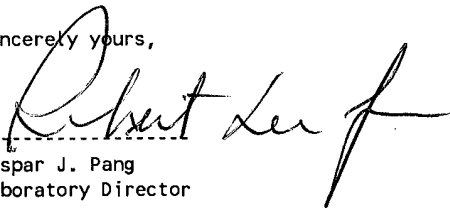
Enclosed is the Laboratory report for samples received on 10/06/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-23130-1	J072-01	10/04/22	WATER	TPH TPH GASOLINE ETHANOL
380-23130-2	J072-02	10/04/22	WATER	TPH GASOLINE
380-23130-1MS	J072-01M	10/04/22	WATER	TPH JP-8
380-23130-1MSD	J072-01S	10/04/22	WATER	TPH JP-8

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.

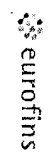
EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone: 626-386-1100

Chain of Custody Record

22J072



Environment Testing
 America

Client Information (Sub Contract Lab)

Client Contact: _____ Phone: _____
 Shipping/Receiving: _____
 Company: EMAX Laboratories Inc
 Address: 3051 Fujita Street, Torrance, CA, 90505
 City: Torrance State Zip: CA, 90505
 Phone: _____ PO #: _____
 Email: _____ WO #: _____
 Project Name: RED-HILL Project #: 38001111
 Site: Honolulu BWS Sites SSOV#: _____

Sampler: _____ Lab PM: Arada, Rachelle
 Due Date Requested: 10/19/2022 TAT Requested (days): _____
 E-Mail: Rachelle.Arada@eurofins.com
 Accreditations Required (See note): State - Hawaii

Carrier Tracking No(s): _____
 State of Origin: Hawaii
 Page: Page 1 of 1
 Job #: 380-23130-1

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 Diesel LL (EAL) and Motor Oil)/ 8015 Diesel LL (EAL) and Motor Oil	
SUB (8015 Jet Fuel 5 (JP5))/ 8015 Jet Fuel 5 (JP5)	
SUB (8015 Jet Fuel 8 (JP8))/ 8015 Jet Fuel 8 (JP8)	

Special Instructions/Note: See Attached Instructions

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	MATRIX (W=water, S=solid, O=oil, BT=issue, AA=)	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 Diesel LL (EAL) and Motor Oil)/ 8015 Diesel LL (EAL) and Motor Oil	SUB (8015 Jet Fuel 5 (JP5))/ 8015 Jet Fuel 5 (JP5)	SUB (8015 Jet Fuel 8 (JP8))/ 8015 Jet Fuel 8 (JP8)	Total Number of containers	Special Instructions/Note
KAAMILLO WELLS (331-261-T P008) (380-23130-1)	10/4/22	10:42	Hawaiian	Water		X	X	X	X	X		See Attached Instructions	
LAB: KAAMILLO WELLS (380-23130-2)	10/4/22	10:42	Hawaiian	Water		X						See Attached Instructions	

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

Possible Hazard Identification

Unconfirmed _____
 Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: 10/6/22 11:20 Company: EMAX

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

Custody Seals Intact: _____ Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: 1.2/1.0 C/F-02

REPORT ID: 22J072
 Page 2 of 47



Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others	Airbill / Tracking Number	ECN <u>22J072</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Recipient <u>Man Ramos</u>
		Date <u>10/6/22</u> Time <u>1120</u>

COC INSPECTION

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input checked="" type="checkbox"/> Tel # / Fax #	<input checked="" 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 <u>correction factor -0.7</u>	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>11.4/1.0</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
Thermometer: A - S/N _____	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
	<input type="checkbox"/> B - S/N <u>210760237</u>	<input type="checkbox"/> C - S/N _____	<input type="checkbox"/> D - S/N <u>210760272</u>

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

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
/				

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:

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

Sample Labeling JHOWIN Ramos Reyes SRF Reyes

Date 10/6/22 10/6/22 Date 10/6/22

PM AS

Date 10/12/22

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.

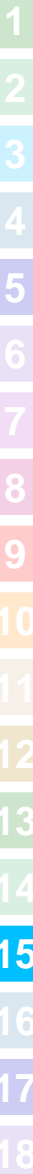
LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-23130

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

SDG#: 22J072



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-23130

SDG : 22J072

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

A total of two(2) water samples were received on 10/06/22 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, two(2) method blanks were analyzed. VGH7J02B and VGH7J03B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. VGH7J02L/VGH7J02C and VGH7J03L/VGH7J03C were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD were analyzed. Gasoline was within MS QC limits in J049-01M/J049-01S and J124-01M/J124-01S. Refer to Matrix QC summary forms for details.

Surrogate

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

Sample Analysis

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

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SAMPLE RESULTS

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINs EATON ANALYTICAL
Project : 380-23130

SDG NO. : 22J072
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
MBLK1W	VGH7J02B	1	NA	10/08/2210:48	10/08/2210:48	AJ08005A	AJ08004A	22VGH7J02	Method Blank
LCS1W	VGH7J02L	1	NA	10/08/2211:22	10/08/2211:22	AJ08006A	AJ08004A	22VGH7J02	Lab Control Sample (LCS)
LCD1W	VGH7J02C	1	NA	10/08/2211:56	10/08/2211:56	AJ08007A	AJ08004A	22VGH7J02	LCS Duplicate
380-23130-1	J072-01	1	NA	10/08/2223:23	10/08/2223:23	AJ08027A	AJ08026A	22VGH7J02	Field Sample
MBLK2W	VGH7J03B	1	NA	10/11/2212:28	10/11/2212:28	AJ11005A	AJ11004A	22VGH7J03	Method Blank
LCS2W	VGH7J03L	1	NA	10/11/2213:02	10/11/2213:02	AJ11006A	AJ11004A	22VGH7J03	Lab Control Sample (LCS)
LCD2W	VGH7J03C	1	NA	10/11/2213:37	10/11/2213:37	AJ11007A	AJ11004A	22VGH7J03	LCS Duplicate
380-23130-2	J072-02R	1	NA	10/11/2214:11	10/11/2214:11	AJ11008A	AJ11004A	22VGH7J03	Field Sample

FN - Filename
% Moist - Percent Moisture



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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/04/22 10:42
Project     : 380-23130                   Date Received: 10/06/22
Batch No.   : 22J072                       Date Extracted: 10/08/22 23:23
Sample ID   : 380-23130-1                 Date Analyzed: 10/08/22 23:23
Lab Samp ID : J072-01                       Dilution Factor: 1
Lab File ID : AJ08027A                       Matrix: WATER
Ext Btch ID : 22VGH7J02                     % Moisture: NA
Calib. Ref.: AJ08026A                       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	0.0403	0.0400	101	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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/04/22 10:42
Project    : 380-23130                   Date Received: 10/06/22
Batch No.  : 22J072                       Date Extracted: 10/11/22 14:11
Sample ID  : 380-23130-2                 Date Analyzed: 10/11/22 14:11
Lab Samp ID: J072-02R                    Dilution Factor: 1
Lab File ID: AJ11008A                     Matrix: WATER
Ext Btch ID: 22VGH7J03                   % Moisture: NA
Calib. Ref.: AJ11004A                    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	0.0348	0.0400	87	60-140

Notes:
Parameter H-C Range
Gasoline C6-C10
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.
Sample Amount : 5ml Final Volume : 5ml
Prepared by : SCerva Analyzed by : SCerva

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QC SUMMARIES

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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/08/22 10:48
Project    : 380-23130                   Date Received: 10/08/22
Batch No.  : 22J072                       Date Extracted: 10/08/22 10:48
Sample ID  : MBLK1W                       Date Analyzed: 10/08/22 10:48
Lab Samp ID: VGH7J02B                     Dilution Factor: 1
Lab File ID: AJ08005A                     Matrix: WATER
Ext Btch ID: 22VGH7J02                    % Moisture: NA
Calib. Ref.: AJ08004A                    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	0.0335	0.0400	84	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 : 380-23130
BATCH NO. : 22J072
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W
LAB SAMPLE ID : VGH7J02B                         VGH7J02L
LAB FILE ID  : AJ08005A                         AJ08006A
DATE PREPARED : 10/08/22 10:48                 10/08/22 11:22
DATE ANALYZED : 10/08/22 10:48                 10/08/22 11:56
PREP BATCH   : 22VGH7J02                       22VGH7J02
CALIBRATION REF: AJ08004A                      AJ08004A
  
```

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	0.536	107	0.500	0.561	112	5	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0432	108	0.0400	0.0461	115	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 : 380-22826
BATCH NO. : 22J049
METHOD : 5030B/8015B

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=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-22826-1                       380-22826-1MS
LAB SAMPLE ID : J049-01                         J049-01M
LAB FILE ID  : AJ08009A                         AJ08010A
DATE PREPARED : 10/08/22 13:04                 10/08/22 13:39
DATE ANALYZED : 10/08/22 13:04                 10/08/22 14:13
PREP BATCH   : 22VGH7J02                       22VGH7J02
CALIBRATION REF: AJ08004A                       AJ08004A
=====
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.498	100	0.500	0.490	98	2	50-130	30

```
=====
```

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0437	109	0.0400	0.0424	106	60-140

```
=====
```

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

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

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=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/11/22 12:28
Project     : 380-23130                   Date Received: 10/11/22
Batch No.   : 22J072                       Date Extracted: 10/11/22 12:28
Sample ID   : MBLK2W                       Date Analyzed: 10/11/22 12:28
Lab Samp ID: VGH7J03B                     Dilution Factor: 1
Lab File ID: AJ11005A                     Matrix: WATER
Ext Btch ID: 22VGH7J03                   % Moisture: NA
Calib. Ref.: AJ11004A                   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	0.0338	0.0400	84	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 : 380-23130
BATCH NO. : 22J072
METHOD : 5030B/8015B

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=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK2W                             LCS2W       LCD2W
LAB SAMPLE ID : VGH7J03B                         VGH7J03L   VGH7J03C
LAB FILE ID  : AJ11005A                         AJ11006A   AJ11007A
DATE PREPARED : 10/11/22 12:28                 10/11/22 13:02 10/11/22 13:37
DATE ANALYZED : 10/11/22 12:28                 10/11/22 13:02 10/11/22 13:37
PREP BATCH   : 22VGH7J03                       22VGH7J03  22VGH7J03
CALIBRATION REF: AJ11004A                      AJ11004A   AJ11004A
  
```

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	0.439	88	0.500	0.466	93	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0424	106	0.0400	0.0438	110	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 : 380-23442
BATCH NO. : 22J124
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 380-23442-1                       380-23442-1MSD
LAB SAMPLE ID : J124-01                         J124-01S
LAB FILE ID  : AJ11009A                        AJ11010A
DATE PREPARED : 10/11/22 14:45                 10/11/22 15:54
DATE ANALYZED : 10/11/22 14:45                 10/11/22 15:54
PREP BATCH   : 22VGH7J03                       22VGH7J03
CALIBRATION REF: AJ11004A                      AJ11004A
    
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QLLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.391	78	0.500	0.436	87	11	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QLLimit (%)
Bromofluorobenzene	0.0400	0.0371	93	0.0400	0.0416	104	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-23130

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22J072



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-23130

SDG : 22J072

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 10/06/22 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. DSJ032WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for Diesel was within LCS QC limits in DSJ032WL. 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 22J049-01M/22J049-01S. 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: 380-23130

SDG : 22J072

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 10/06/22 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. DSJ032WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP5 was within LCS QC limits in J5J032WL. 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 22J049-01M/22J049-01S. 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: 380-23130

SDG : 22J072

METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 10/06/22 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. DSJ032WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for JP8 was within LCS QC limits in J8J032WL. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. JP8 was within MS QC limits in 22J072-01M/22J072-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL
Project    : 380-23130
SDG NO.   : 22J072
Instrument ID : D5
=====
  
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Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
									WATER
MBLK1W	DSJ032WB	1	NA	10/17/2212:50	10/15/2216:45	LJ17009A	LJ17003A	22DSJ032W	Method Blank
LCS1W	DSJ032WL	1	NA	10/17/2213:08	10/15/2216:45	LJ17010A	LJ17003A	22DSJ032W	Lab Control Sample (LCS)
380-23130-1	J072-01	1	NA	10/17/2217:28	10/15/2216:45	LJ17024A	LJ17003A	22DSJ032W	Field Sample

FN - Filename
% Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

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=====
Client      : EUROFINS EATON ANALYTICAL
Project     : 380-23130
=====
SDG NO.    : 22J072
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
380-23130-1	DSJ032WB	1	NA	10/17/2212:50	10/15/2216:45	LJ17009A	LJ17004A	22DSJ032W	Method Blank
	J5J032WL	1	NA	10/17/2213:27	10/15/2216:45	LJ17011A	LJ17004A	22DSJ032W	Lab Control Sample (LCS)
	J072-01	1	NA	10/17/2217:28	10/15/2216:45	LJ17024A	LJ17004A	22DSJ032W	Field Sample

FN - Filename
% Moist - Percent Moisture



LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL
Project    : 380-23130
SDG NO.   : 22J072
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
									WATER
MBLK1W	DSJ032WB	1	NA	10/17/2212:50	10/15/2216:45	LJ17009A	LJ17005A	22DSJ032W	Method Blank
LCS1W	J8J032WL	1	NA	10/17/2213:46	10/15/2216:45	LJ17012A	LJ17005A	22DSJ032W	Lab Control Sample (LCS)
380-23130-1	J072-01	1	NA	10/17/2217:28	10/15/2216:45	LJ17024A	LJ17005A	22DSJ032W	Field Sample
380-23130-1MS	J072-01M	1	NA	10/17/2217:47	10/15/2216:45	LJ17025A	LJ17005A	22DSJ032W	Matrix Spike Sample (MS)
380-23130-1MSD	J072-01S	1	NA	10/17/2218:05	10/15/2216:45	LJ17026A	LJ17005A	22DSJ032W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture



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SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/04/22 10:42
Project     : 380-23130                 Date Received: 10/06/22
Batch No.   : 22J072                    Date Extracted: 10/15/22 16:45
Sample ID   : 380-23130-1               Date Analyzed: 10/17/22 17:28
Lab Samp ID: 22J072-01                  Dilution Factor: 1
Lab File ID: LJ17024A                   Matrix: WATER
Ext Btch ID: 22DSJ032W                  % Moisture: NA
Calib. Ref.: LJ17003A                   Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
Diesel	ND	0.026	0.013		
Motor Oil	ND	0.052	0.026		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.453	0.525	86	60-130	
Hexacosane	0.107	0.131	82	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 : 950ml Final Volume : 5ml
Prepared by : DLi Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/04/22 10:42
Project     : 380-23130                 Date Received: 10/06/22
Batch No.   : 22J072                    Date Extracted: 10/15/22 16:45
Sample ID   : 380-23130-1              Date Analyzed: 10/17/22 17:28
Lab Samp ID: 22J072-01                 Dilution Factor: 1
Lab File ID: LJ17024A                  Matrix: WATER
Ext Btch ID: 22DSJ032W                 % Moisture: NA
Calib. Ref.: LJ17004A                  Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.453	0.525	86	60-130
Hexacosane	0.107	0.131	82	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 : 950ml Final Volume : 5ml
 Prepared by : DLi Analyzed by : SDeeso

METHOD 3520C/8015B
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/04/22 10:42
Project     : 380-23130                   Date Received: 10/06/22
Batch No.   : 22J072                       Date Extracted: 10/15/22 16:45
Sample ID   : 380-23130-1                 Date Analyzed: 10/17/22 17:28
Lab Samp ID : 22J072-01                   Dilution Factor: 1
Lab File ID : LJ17024A                     Matrix: WATER
Ext Btch ID : 22DSJ032W                   % Moisture: NA
Calib. Ref. : LJ17005A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.453	0.525	86	60-130
Hexacosane	0.107	0.131	82	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 : 950ml Final Volume : 5ml
 Prepared by : DLi Analyzed by : SDeeso

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QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 10/15/22 16:45
Project     : 380-23130                   Date Received: 10/15/22
Batch No.   : 22J072                       Date Extracted: 10/15/22 16:45
Sample ID   : MBLK1W                       Date Analyzed: 10/17/22 12:50
Lab Samp ID: DSJ032WB                       Dilution Factor: 1
Lab File ID: LJ17009A                       Matrix: WATER
Ext Btch ID: 22DSJ032W                       % Moisture: NA
Calib. Ref.: LJ17003A                       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	0.501	0.500	100	60-130
Hexacosane	0.111	0.125	89	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 : DLi Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-23130
BATCH NO. : 22J072
METHOD : 3520C/8015B

=====

MATRIX	: WATER	% MOISTURE:NA
DILUTION FACTOR:	1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: DSJ032WB	DSJ032WL
LAB FILE ID	: LJ17009A	LJ17010A
DATE PREPARED	: 10/15/22 16:45	10/15/22 16:45
DATE ANALYZED	: 10/17/22 12:50	10/17/22 13:08
PREP BATCH	: 22DSJ032W	22DSJ032W
CALIBRATION REF:	LJ17003A	LJ17003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.38	95	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.502	100	60-130
Hexacosane	0.125	0.117	94	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-22826
BATCH NO. : 22J049
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                     1
SAMPLE ID   : 380-22826-1                             380-22826-1MSD
LAB SAMPLE ID : 22J049-01                             22J049-01S
LAB FILE ID  : LJ17017A                               LJ17018A
DATE PREPARED : 10/15/22 16:45                       10/15/22 16:45
DATE ANALYZED : 10/17/22 15:18                       10/17/22 15:55
PREP BATCH   : 22DSJ032W                             22DSJ032W
CALIBRATION REF: LJ17003A                             LJ17003A
    
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.58	2.31	90	2.65	2.51	95	8	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.515	0.467	91	0.530	0.457	86	60-130
Hexacosane	0.129	0.122	95	0.132	0.132	100	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: 10/15/22 16:45
Project     : 380-23130                 Date Received: 10/15/22
Batch No.   : 22J072                   Date Extracted: 10/15/22 16:45
Sample ID   : MBLK1W                   Date Analyzed: 10/17/22 12:50
Lab Samp ID: DSJ032WB                 Dilution Factor: 1
Lab File ID: LJ17009A                 Matrix: WATER
Ext Btch ID: 22DSJ032W                % Moisture: NA
Calib. Ref.: LJ17004A                 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	0.501	0.500	100	60-130
Hexacosane	0.111	0.125	89	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 : DLi Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-23130
BATCH NO. : 22J072
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W
LAB SAMPLE ID : DSJ032WB J5J032WL
LAB FILE ID : LJ17009A LJ17011A
DATE PREPARED : 10/15/22 16:45 10/15/22 16:45
DATE ANALYZED : 10/17/22 12:50 10/17/22 13:27
PREP BATCH : 22DSJ032W 22DSJ032W
CALIBRATION REF: LJ17004A LJ17004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP5	ND	2.50	2.24	90	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.403	81	60-130
Hexacosane	0.125	0.107	86	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-22826
BATCH NO. : 22J049
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                     1
SAMPLE ID   : 380-22826-1                             380-22826-1MS
LAB SAMPLE ID : 22J049-01                             22J049-01S
LAB FILE ID  : LJ17017A                               LJ17020A
DATE PREPARED : 10/15/22 16:45                       10/15/22 16:45
DATE ANALYZED : 10/17/22 15:18                       10/17/22 16:33
PREP BATCH   : 22DSJ032W                             22DSJ032W
CALIBRATION REF: LJ17004A                             LJ17004A
    
```

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	2.21	81	2.78	2.51	90	13	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.545	0.462	85	0.555	0.418	75	60-130
Hexacosane	0.136	0.109	80	0.139	0.125	90	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: 10/15/22 16:45
Project    : 380-23130                   Date Received: 10/15/22
Batch No.  : 22J072                       Date Extracted: 10/15/22 16:45
Sample ID  : MBLK1W                       Date Analyzed: 10/17/22 12:50
Lab Samp ID: DSJ032WB                     Dilution Factor: 1
Lab File ID: LJ17009A                     Matrix: WATER
Ext Btch ID: 22DSJ032W                   % Moisture: NA
Calib. Ref.: LJ17005A                   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	0.501	0.500	100	60-130
Hexacosane	0.111	0.125	89	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 : DLi Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-23130
BATCH NO. : 22J072
METHOD : 3520C/8015B

=====

MATRIX	: WATER	% MOISTURE:NA
DILUTION FACTOR:	1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: DSJ032WB	J8J032WL
LAB FILE ID	: LJ17009A	LJ17012A
DATE PREPARED	: 10/15/22 16:45	10/15/22 16:45
DATE ANALYZED	: 10/17/22 12:50	10/17/22 13:46
PREP BATCH	: 22DSJ032W	22DSJ032W
CALIBRATION REF:	LJ17005A	LJ17005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP8	ND	2.50	2.47	99	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.502	100	60-130
Hexacosane	0.125	0.113	90	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-23130
BATCH NO. : 22J072
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                     % MOISTURE:NA
DILUTION FACTOR: 1                                   1
SAMPLE ID   : 380-23130-1                             380-23130-1MS
LAB SAMPLE ID : 22J072-01                             22J072-01S
LAB FILE ID  : LJ17024A                               LJ17026A
DATE PREPARED : 10/15/22 16:45                       10/15/22 16:45
DATE ANALYZED : 10/17/22 17:28                       10/17/22 18:05
PREP BATCH   : 22DSJ032W                             22DSJ032W
CALIBRATION REF: LJ17005A                             LJ17005A
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.65	2.98	112	2.58	2.78	108	7	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.530	0.450	85	0.515	0.446	87	60-130
Hexacosane	0.132	0.111	84	0.129	0.104	81	60-130

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-23130

METHOD SW8015C
ALCOHOLS BY GC

SDG#: 22J072

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CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-23130

SDG : 22J072

METHOD SW8015C
ALCOHOLS BY GC

One(1) water sample was received on 10/06/22 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. MEJ001WB - 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. MEJ001WL/MEJ001WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. Ethanol was within MS QC limits in J049-03M/J049-03S. 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     : 380-23130
SDG NO.    : 22J072
Instrument ID : GCT050
=====

```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
380-23130-1	MEJ001WB	1	NA	10/08/2210:43	NA	TJ08004A	TJ08002A	MEJ001W	Method Blank
	MEJ001WL	1	NA	10/08/2210:56	NA	TJ08005A	TJ08002A	MEJ001W	Lab Control Sample (LCS)
	MEJ001WC	1	NA	10/08/2211:09	NA	TJ08006A	TJ08002A	MEJ001W	LCS Duplicate
	J072-01	1	NA	10/08/2212:06	NA	TJ08010A	TJ08002A	MEJ001W	Field Sample

FN - Filename
% Moist - Percent Moisture



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SAMPLE RESULTS

METHOD SW8015C
ALCOHOLS BY GC

```
=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 10/04/22
Project     : 380-23130                      Date Received: 10/06/22
Batch No.   : 22J072                         Date Extracted: NA
Sample ID   : 380-23130-1                   Date Analyzed: 10/08/22 12:06
Lab Samp ID: J072-01                         Dilution Factor: 1
Lab File ID: TJ08010A                       Matrix          : WATER
Ext Btch ID: MEJ001W                        % Moisture      : NA
Calib. Ref.: TJ08002A                      Instrument ID   : GCT050
=====
```

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

RL : Reporting Limit

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QC SUMMARIES

METHOD SW8015C
ALCOHOLS BY GC

```

=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project    : 380-23130                      Date Received: NA
Batch No.  : 22J072                         Date Extracted: NA
Sample ID  : MBLK1W                         Date Analyzed: 10/08/22 10:43
Lab Samp ID: MEJ001WB                      Dilution Factor: 1
Lab File ID: TJ08004A                      Matrix       : WATER
Ext Btch ID: MEJ001W                       % Moisture   : NA
Calib. Ref.: TJ08002A                      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: 380-23130
BATCH NO.: 22J072
METHOD: METHOD SW8015C

=====

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: MEJ001WB MEJ001WL MEJ001WC
LAB FILE ID: TJ08004A TJ08005A TJ08006A
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA
DATE ANALYZED: 10/08/2210:43 10/08/2210:56 10/08/2211:09 DATE RECEIVED: NA
PREP. BATCH: MEJ001W MEJ001W MEJ001W
CALIB. REF: TJ08002A TJ08002A TJ08002A

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	10300	103	10000	10600	106	3	60-130	30

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-22826
BATCH NO.: 22J049
METHOD: METHOD SW8015C

=====

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: 380-22826-3
LAB SAMP ID: J049-03 J049-03M J049-03S
LAB FILE ID: TJ08011A TJ08012A TJ08013A
DATE EXTRACTED: NA NA NA DATE COLLECTED: 10/03/22
DATE ANALYZED: 10/08/2212:21 10/08/2212:38 10/08/2213:05 DATE RECEIVED: 10/05/22
PREP. BATCH: MEJ001W MEJ001W MEJ001W
CALIB. REF: TJ08002A TJ08002A TJ08002A

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	10300	103	10000	11500	115	11	60-130	30

November 08, 2022

Debbie Frank
 Eurofins Eaton Analytical
 750 Royal Oaks Drive
 Suite 100
 Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-23130-1
 Physis Project ID: 1407003-310

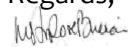
Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 10/6/2022. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1
Base/Neutral Extractable Compounds by EPA 625.1
Acid Extractable Compounds w/ PAHs by EPA 625.1
6-tert-Butyl-2,4-dimethylphenol by EPA 625.1
2,6-Di-tert-butylphenol by EPA 625.1
2,6-Di-tert-butyl-4-methylphenol by EPA 625.1
p-tert-Butylphenol by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

 Misty Mercier
 714 602-5320
 Extension 202
 mistymercier@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-310

RED-HILL Project # 38001111 Job # 380-23130-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
100622	KAAMILO WELLS	331-261-TP008 (380-23130-1)	10/4/2022	10:42	Samplewater	Not Specified

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ABBREVIATIONS and ACRONYMS

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

QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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PHYSIS QUALIFIER CODES

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

CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

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Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed	
Sample ID: 100622-R1	KAAMILO WELLS 331-261-TP008 (3 Matrix: Samplewater)						Sampled:	04-Oct-22 10:42	Received:	06-Oct-22		
(2,4,6-Tribromophenol)	EPA 625.1	% Recovery	68	1			Total		O-40004	10-Oct-22	31-Oct-22	
(d5-Phenol)	EPA 625.1	% Recovery	21	1			Total		O-40004	10-Oct-22	31-Oct-22	
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
Benzoic Acid	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total		O-40004	10-Oct-22	31-Oct-22	
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22	

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100622-R1	KAAMILO WELLS 331-261-TP008 (3	Matrix: Samplewater					Sampled: 04-Oct-22 10:42			Received: 06-Oct-22	
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Dibenzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40004	10-Oct-22	31-Oct-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 100622-R1	KAAMILO WELLS 331-261-TP008 (3 Matrix: Samplewater)						Sampled: 04-Oct-22 10:42		Received: 06-Oct-22		
(d10-Acenaphthene)	EPA 625.1	% Recovery	93	1			Total		O-40004	10-Oct-22	31-Oct-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	98	1			Total		O-40004	10-Oct-22	31-Oct-22
(d12-Chrysene)	EPA 625.1	% Recovery	105	1			Total		O-40004	10-Oct-22	31-Oct-22
(d12-Perylene)	EPA 625.1	% Recovery	87	1			Total		O-40004	10-Oct-22	31-Oct-22
(d8-Naphthalene)	EPA 625.1	% Recovery	81	1			Total		O-40004	10-Oct-22	31-Oct-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22

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-40004	10-Oct-22	31-Oct-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40004	10-Oct-22	31-Oct-22



QUALITY CONTROL REPORT

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 100621-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-40004		Prepared: 10-Oct-22		Analyzed: 30-Oct-22					
(2,4,6-Tribromophenol)	Total	56	1			% Recovery	100	56	30 - 130%	PASS	
(d5-Phenol)	Total	40	1			% Recovery	100	40	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 CODE
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 100621-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-40004			Prepared: 10-Oct-22		Analyzed: 30-Oct-22					
(2,4,6-Tribromophenol)	Total	55	1			% Recovery	100	0	55	30 - 130%	PASS	
(d5-Phenol)	Total	33	1			% Recovery	100	0	33	0 - 130%	PASS	
2,4,5-Trichlorophenol	Total	0.772	1	0.05	0.1	µg/L	1	0	77	30 - 130%	PASS	
2,4,6-Trichlorophenol	Total	0.876	1	0.05	0.1	µg/L	1	0	88	56 - 118%	PASS	
2,4-Dichlorophenol	Total	0.88	1	0.05	0.1	µg/L	1	0	88	51 - 117%	PASS	
2,4-Dinitrophenol	Total	0.71	1	0.1	0.2	µg/L	1	0	71	0 - 152%	PASS	
2,6-Dichlorophenol	Total	0.928	1	0.05	0.1	µg/L	1	0	93	30 - 130%	PASS	
2,6-Di-tert-butyl-4-methylphenol	Total	0.638	1	0.05	0.1	µg/L	1	0	64	50 - 150%	PASS	
2,6-Di-tert-butylphenol	Total	0.642	1	0.05	0.1	µg/L	1	0	64	50 - 150%	PASS	
2-Chlorophenol	Total	0.677	1	0.05	0.1	µg/L	1	0	68	41 - 110%	PASS	
2-Methyl-4,6-dinitrophenol	Total	0.777	1	0.1	0.2	µg/L	1	0	78	0 - 141%	PASS	
2-Methylphenol	Total	0.773	1	0.1	0.2	µg/L	1	0	77	40 - 117%	PASS	
2-Nitrophenol	Total	0.611	1	0.1	0.2	µg/L	1	0	61	40 - 117%	PASS	
3+4-Methylphenol	Total	0.864	1	0.1	0.2	µg/L	1	0	86	0 - 130%	PASS	
4-Chloro-3-methylphenol	Total	0.864	1	0.1	0.2	µg/L	1	0	86	51 - 128%	PASS	
4-Nitrophenol	Total	0.47	1	0.1	0.2	µg/L	1	0	47	10 - 164%	PASS	
6-tert-butyl-2,4-dimethylphenol	Total	0.736	1	0.05	0.1	µg/L	1	0	74	50 - 150%	PASS	
Benzoic Acid	Total	0.407	1	0.1	0.2	µg/L	1	0	41	2 - 145%	PASS	
Benzyl Alcohol	Total	0.821	1	0.1	0.2	µg/L	1	0	82	43 - 148%	PASS	
Pentachlorophenol	Total	0.613	1	0.05	0.1	µg/L	1	0	61	36 - 111%	PASS	
Phenol	Total	0.626	1	0.1	0.2	µg/L	1	0	63	29 - 114%	PASS	
p-tert-Butylphenol	Total	1.13	1	0.05	0.1	µg/L	1	0	113	50 - 150%	PASS	

Acid Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 100621-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-40004			Prepared: 10-Oct-22			Analyzed: 31-Oct-22			
(2,4,6-Tribromophenol)	Total	61	1			% Recovery	100	0	61	30 - 130%	PASS	10	30	PASS
(d5-Phenol)	Total	35	1			% Recovery	100	0	35	0 - 130%	PASS	6	30	PASS
2,4,5-Trichlorophenol	Total	0.943	1	0.05	0.1	µg/L	1	0	94	30 - 130%	PASS	20	30	PASS
2,4,6-Trichlorophenol	Total	0.978	1	0.05	0.1	µg/L	1	0	98	56 - 118%	PASS	11	30	PASS
2,4-Dichlorophenol	Total	0.963	1	0.05	0.1	µg/L	1	0	96	51 - 117%	PASS	9	30	PASS
2,4-Dinitrophenol	Total	0.757	1	0.1	0.2	µg/L	1	0	76	0 - 152%	PASS	7	30	PASS
2,6-Dichlorophenol	Total	1.03	1	0.05	0.1	µg/L	1	0	103	30 - 130%	PASS	10	30	PASS
2,6-Di-tert-butyl-4-methylphenol	Total	0.705	1	0.05	0.1	µg/L	1	0	70	50 - 150%	PASS	9	30	PASS
2,6-Di-tert-butylphenol	Total	0.739	1	0.05	0.1	µg/L	1	0	74	50 - 150%	PASS	14	30	PASS
2-Chlorophenol	Total	0.754	1	0.05	0.1	µg/L	1	0	75	41 - 110%	PASS	10	30	PASS
2-Methyl-4,6-dinitrophenol	Total	0.882	1	0.1	0.2	µg/L	1	0	88	0 - 141%	PASS	12	30	PASS
2-Methylphenol	Total	0.885	1	0.1	0.2	µg/L	1	0	88	40 - 117%	PASS	13	30	PASS
2-Nitrophenol	Total	0.79	1	0.1	0.2	µg/L	1	0	79	40 - 117%	PASS	26	30	PASS
3+4-Methylphenol	Total	0.867	1	0.1	0.2	µg/L	1	0	87	0 - 130%	PASS	1	30	PASS
4-Chloro-3-methylphenol	Total	0.98	1	0.1	0.2	µg/L	1	0	98	51 - 128%	PASS	13	30	PASS
4-Nitrophenol	Total	0.553	1	0.1	0.2	µg/L	1	0	55	10 - 164%	PASS	16	30	PASS
6-tert-butyl-2,4-dimethylphenol	Total	0.786	1	0.05	0.1	µg/L	1	0	79	50 - 150%	PASS	7	30	PASS
Benzoic Acid	Total	0.441	1	0.1	0.2	µg/L	1	0	44	2 - 145%	PASS	7	30	PASS
Benzyl Alcohol	Total	0.794	1	0.1	0.2	µg/L	1	0	79	43 - 148%	PASS	4	30	PASS
Pentachlorophenol	Total	0.738	1	0.05	0.1	µg/L	1	0	74	36 - 111%	PASS	19	30	PASS
Phenol	Total	0.706	1	0.1	0.2	µg/L	1	0	71	29 - 114%	PASS	12	30	PASS
p-tert-Butylphenol	Total	1.12	1	0.05	0.1	µg/L	1	0	112	50 - 150%	PASS	1	30	PASS

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE
							LEVEL	RESULT	%	LIMITS	%
Sample ID: 100621-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1			Batch ID: O-40004		Prepared: 10-Oct-22		Analyzed: 30-Oct-22		
2-Chloronaphthalene	Total	ND	1	0.05	0.1	µg/L					
2-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
3-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Bromophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Chloroaniline	Total	ND	1	0.05	0.1	µg/L					
4-Chlorophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L					
4-Nitroaniline	Total	ND	1	0.05	0.1	µg/L					
Aniline	Total	ND	1	0.05	0.1	µg/L					
Benzidine	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethoxy) methane	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroethyl) ether	Total	ND	1	0.05	0.1	µg/L					
Bis(2-Chloroisopropyl) ether	Total	ND	1	0.05	0.1	µg/L					
Dibenzofuran	Total	ND	1	0.05	0.1	µg/L					
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L					
Hexachloroethane	Total	ND	1	0.05	0.1	µg/L					
Nitrobenzene	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodi-n-propylamine	Total	ND	1	0.05	0.1	µg/L					
N-Nitrosodiphenylamine	Total	ND	1	0.05	0.1	µg/L					

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION	QA CODE
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 100621-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-40004			Prepared: 10-Oct-22		Analyzed: 30-Oct-22					
2-Chloronaphthalene	Total	0.845	1	0.05	0.1	µg/L	1	0	85	53 - 130%	PASS	
2-Nitroaniline	Total	0.881	1	0.05	0.1	µg/L	1	0	88	69 - 114%	PASS	
3-Nitroaniline	Total	0.92	1	0.05	0.1	µg/L	1	0	92	23 - 137%	PASS	
4-Bromophenylphenyl ether	Total	0.864	1	0.05	0.1	µg/L	1	0	86	61 - 132%	PASS	
4-Chloroaniline	Total	1.2	1	0.05	0.1	µg/L	1	0	120	50 - 150%	PASS	
4-Chlorophenylphenyl ether	Total	0.853	1	0.05	0.1	µg/L	1	0	85	63 - 130%	PASS	
4-Nitroaniline	Total	0.97	1	0.05	0.1	µg/L	1	0	97	10 - 159%	PASS	
Aniline	Total	0.613	1	0.05	0.1	µg/L	1	0	61	50 - 150%	PASS	
Bis(2-Chloroethoxy) methane	Total	0.94	1	0.05	0.1	µg/L	1	0	94	66 - 122%	PASS	
Bis(2-Chloroethyl) ether	Total	0.727	1	0.05	0.1	µg/L	1	0	73	43 - 127%	PASS	
Bis(2-Chloroisopropyl) ether	Total	1.06	1	0.05	0.1	µg/L	1	0	106	49 - 128%	PASS	
Dibenzofuran	Total	0.731	1	0.05	0.1	µg/L	1	0	73	50 - 150%	PASS	
Disalicylidenepropanediamin	Total	30.8	1	0.05	0.1	µg/L	50	0	62	50 - 150%	PASS	
Hexachloroethane	Total	0.79	1	0.05	0.1	µg/L	1	0	79	27 - 130%	PASS	
Nitrobenzene	Total	0.891	1	0.05	0.1	µg/L	1	0	89	54 - 111%	PASS	
N-Nitrosodi-n-propylamine	Total	0.955	1	0.05	0.1	µg/L	1	0	95	61 - 152%	PASS	
N-Nitrosodiphenylamine	Total	0.789	1	0.05	0.1	µg/L	1	0	79	49 - 142%	PASS	

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODE _c	
									%	LIMITS	%	LIMITS		
Sample ID: 100621-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:				
		Method: EPA 625.1			Batch ID: O-40004			Prepared: 10-Oct-22		Analyzed: 31-Oct-22				
2-Chloronaphthalene	Total	1.01	1	0.05	0.1	µg/L	1	0	101	53 - 130%	PASS	18	30	PASS
2-Nitroaniline	Total	1.12	1	0.05	0.1	µg/L	1	0	112	69 - 114%	PASS	24	30	PASS
3-Nitroaniline	Total	1.16	1	0.05	0.1	µg/L	1	0	116	23 - 137%	PASS	23	30	PASS
4-Bromophenylphenyl ether	Total	0.988	1	0.05	0.1	µg/L	1	0	99	61 - 132%	PASS	14	30	PASS
4-Chloroaniline	Total	1.25	1	0.05	0.1	µg/L	1	0	125	50 - 150%	PASS	4	30	PASS
4-Chlorophenylphenyl ether	Total	0.996	1	0.05	0.1	µg/L	1	0	100	63 - 130%	PASS	16	30	PASS
4-Nitroaniline	Total	1.29	1	0.05	0.1	µg/L	1	0	129	10 - 159%	PASS	28	30	PASS
Aniline	Total	0.727	1	0.05	0.1	µg/L	1	0	73	50 - 150%	PASS	18	30	PASS
Bis(2-Chloroethoxy) methane	Total	0.997	1	0.05	0.1	µg/L	1	0	100	66 - 122%	PASS	6	30	PASS
Bis(2-Chloroethyl) ether	Total	0.79	1	0.05	0.1	µg/L	1	0	79	43 - 127%	PASS	8	30	PASS
Bis(2-Chloroisopropyl) ether	Total	0.969	1	0.05	0.1	µg/L	1	0	97	49 - 128%	PASS	9	30	PASS
Dibenzofuran	Total	0.884	1	0.05	0.1	µg/L	1	0	88	50 - 150%	PASS	19	30	PASS
Disalicylidenepropanediamin	Total	38.4	1	0.05	0.1	µg/L	50	0	77	50 - 150%	PASS	22	30	PASS
Hexachloroethane	Total	0.77	1	0.05	0.1	µg/L	1	0	77	27 - 130%	PASS	3	30	PASS
Nitrobenzene	Total	0.884	1	0.05	0.1	µg/L	1	0	88	54 - 111%	PASS	1	30	PASS
N-Nitrosodi-n-propylamine	Total	0.979	1	0.05	0.1	µg/L	1	0	98	61 - 152%	PASS	2	30	PASS
N-Nitrosodiphenylamine	Total	0.983	1	0.05	0.1	µg/L	1	0	98	49 - 142%	PASS	21	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: 100621-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-40004		Prepared: 10-Oct-22		Analyzed: 30-Oct-22					
(d10-Acenaphthene)	Total	83	1			% Recovery	100	83	27 - 133%	PASS	
(d10-Phenanthrene)	Total	90	1			% Recovery	100	90	43 - 129%	PASS	
(d12-Chrysene)	Total	84	1			% Recovery	100	84	52 - 144%	PASS	
(d12-Perylene)	Total	80	1			% Recovery	100	80	36 - 161%	PASS	
(d8-Naphthalene)	Total	73	1			% Recovery	100	73	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005						µg/L
1-Methylphenanthrene	Total	ND	1	0.001	0.005						µg/L
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005						µg/L
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005						µg/L
2-Methylnaphthalene	Total	ND	1	0.001	0.005						µg/L
Acenaphthene	Total	ND	1	0.001	0.005						µg/L
Acenaphthylene	Total	ND	1	0.001	0.005						µg/L
Anthracene	Total	ND	1	0.001	0.005						µg/L
Benz[a]anthracene	Total	ND	1	0.001	0.005						µg/L
Benzo[a]pyrene	Total	ND	1	0.001	0.005						µg/L
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005						µg/L
Benzo[e]pyrene	Total	ND	1	0.001	0.005						µg/L
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005						µg/L
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005						µg/L
Biphenyl	Total	ND	1	0.001	0.005						µg/L
Chrysene	Total	ND	1	0.001	0.005						µg/L
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005						µg/L
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005						µg/L
Dibenzothiophene	Total	ND	1	0.001	0.005						µg/L

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODE	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 100621-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-40004			Prepared: 10-Oct-22		Analyzed: 30-Oct-22					
(d10-Acenaphthene)	Total	83	1			% Recovery	100	0	83	27 - 133%	PASS	
(d10-Phenanthrene)	Total	93	1			% Recovery	100	0	93	43 - 129%	PASS	
(d12-Chrysene)	Total	97	1			% Recovery	100	0	97	52 - 144%	PASS	
(d12-Perylene)	Total	84	1			% Recovery	100	0	84	36 - 161%	PASS	
(d8-Naphthalene)	Total	76	1			% Recovery	100	0	76	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.402	1	0.001	0.005	µg/L	0.5	0	80	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.455	1	0.001	0.005	µg/L	0.5	0	91	48 - 120%	PASS	
2-Methylnaphthalene	Total	1.16	1	0.001	0.005	µg/L	1.5	0	77	47 - 130%	PASS	
Acenaphthene	Total	1.49	1	0.001	0.005	µg/L	1.5	0	99	53 - 131%	PASS	
Acenaphthylene	Total	1.53	1	0.001	0.005	µg/L	1.5	0	102	43 - 140%	PASS	
Anthracene	Total	1.52	1	0.001	0.005	µg/L	1.5	0	101	58 - 135%	PASS	
Benz[a]anthracene	Total	1.52	1	0.001	0.005	µg/L	1.5	0	101	55 - 145%	PASS	
Benzo[a]pyrene	Total	1.4	1	0.001	0.005	µg/L	1.5	0	93	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	1.41	1	0.001	0.005	µg/L	1.5	0	94	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	1.48	1	0.001	0.005	µg/L	1.5	0	99	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	1.5	1	0.001	0.005	µg/L	1.5	0	100	56 - 145%	PASS	
Biphenyl	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	56 - 119%	PASS	
Chrysene	Total	1.51	1	0.001	0.005	µg/L	1.5	0	101	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	1.39	1	0.001	0.005	µg/L	1.5	0	93	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.393	1	0.001	0.005	µg/L	0.5	0	79	50 - 150%	PASS	
Dibenzothiophene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	75 - 113%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Fluoranthene	Total	0.901	1	0.001	0.005	µg/L	1.5	0	60	60 - 146%	PASS		
Fluorene	Total	1.55	1	0.001	0.005	µg/L	1.5	0	103	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	1.39	1	0.001	0.005	µg/L	1.5	0	93	50 - 151%	PASS		
Naphthalene	Total	1.07	1	0.001	0.005	µg/L	1.5	0	71	41 - 126%	PASS		
Perylene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	48 - 141%	PASS		
Phenanthrene	Total	1.53	1	0.001	0.005	µg/L	1.5	0	102	67 - 127%	PASS		
Pyrene	Total	0.897	1	0.001	0.005	µg/L	1.5	0	60	54 - 156%	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: 100621-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
Method: EPA 625.1		Batch ID: O-40004			Prepared: 10-Oct-22			Analyzed: 31-Oct-22						
(d10-Acenaphthene)	Total	92	1			% Recovery	100	0	92	27 - 133%	PASS	10	30	PASS
(d10-Phenanthrene)	Total	98	1			% Recovery	100	0	98	43 - 129%	PASS	5	30	PASS
(d12-Chrysene)	Total	103	1			% Recovery	100	0	103	52 - 144%	PASS	6	30	PASS
(d12-Perylene)	Total	87	1			% Recovery	100	0	87	36 - 161%	PASS	4	30	PASS
(d8-Naphthalene)	Total	74	1			% Recovery	100	0	74	25 - 125%	PASS	3	30	PASS
1-Methylnaphthalene	Total	0.395	1	0.001	0.005	µg/L	0.5	0	79	31 - 128%	PASS	2	30	PASS
1-Methylphenanthrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	66 - 127%	PASS	2	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	55 - 122%	PASS	8	30	PASS
2,6-Dimethylnaphthalene	Total	0.505	1	0.001	0.005	µg/L	0.5	0	101	48 - 120%	PASS	10	30	PASS
2-Methylnaphthalene	Total	1.13	1	0.001	0.005	µg/L	1.5	0	75	47 - 130%	PASS	3	30	PASS
Acenaphthene	Total	1.62	1	0.001	0.005	µg/L	1.5	0	108	53 - 131%	PASS	9	30	PASS
Acenaphthylene	Total	1.63	1	0.001	0.005	µg/L	1.5	0	109	43 - 140%	PASS	7	30	PASS
Anthracene	Total	1.58	1	0.001	0.005	µg/L	1.5	0	105	58 - 135%	PASS	4	30	PASS
Benz[a]anthracene	Total	1.61	1	0.001	0.005	µg/L	1.5	0	107	55 - 145%	PASS	6	30	PASS
Benzo[a]pyrene	Total	1.4	1	0.001	0.005	µg/L	1.5	0	93	51 - 143%	PASS	0	30	PASS
Benzo[b]fluoranthene	Total	1.49	1	0.001	0.005	µg/L	1.5	0	99	46 - 165%	PASS	5	30	PASS
Benzo[e]pyrene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	42 - 152%	PASS	3	30	PASS
Benzo[g,h,i]perylene	Total	1.53	1	0.001	0.005	µg/L	1.5	0	102	63 - 133%	PASS	3	30	PASS
Benzo[k]fluoranthene	Total	1.57	1	0.001	0.005	µg/L	1.5	0	105	56 - 145%	PASS	5	30	PASS
Biphenyl	Total	0.495	1	0.001	0.005	µg/L	0.5	0	99	56 - 119%	PASS	7	30	PASS
Chrysene	Total	1.57	1	0.001	0.005	µg/L	1.5	0	105	56 - 141%	PASS	4	30	PASS
Dibenz[a,h]anthracene	Total	1.43	1	0.001	0.005	µg/L	1.5	0	95	55 - 150%	PASS	2	30	PASS
Dibenzo[a,l]pyrene	Total	0.396	1	0.001	0.005	µg/L	0.5	0	79	50 - 150%	PASS	0	30	PASS
Dibenzothiophene	Total	0.506	1	0.001	0.005	µg/L	0.5	0	101	75 - 113%	PASS	6	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Fluoranthene	Total	0.98	1	0.001	0.005	µg/L	1.5	0	65	60 - 146%	PASS	8	30	PASS
Fluorene	Total	1.71	1	0.001	0.005	µg/L	1.5	0	114	58 - 131%	PASS	10	30	PASS
Indeno[1,2,3-cd]pyrene	Total	1.44	1	0.001	0.005	µg/L	1.5	0	96	50 - 151%	PASS	3	30	PASS
Naphthalene	Total	1	1	0.001	0.005	µg/L	1.5	0	67	41 - 126%	PASS	6	30	PASS
Perylene	Total	0.407	1	0.001	0.005	µg/L	0.5	0	81	48 - 141%	PASS	0	30	PASS
Phenanthrene	Total	1.62	1	0.001	0.005	µg/L	1.5	0	108	67 - 127%	PASS	6	30	PASS
Pyrene	Total	0.872	1	0.001	0.005	µg/L	1.5	0	58	54 - 156%	PASS	3	30	PASS

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PHYSIS

TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 100622

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3440	6.1462	1111	Anthracene-D10	1517-22-2	96
29.3386	1.6134	292	Benzoic acid, 2-ethylhexyl ester	5444-75-7	98

Concentration estimated using the response for Anthracene-d10

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Sample ID: Lab Blank B1_40004

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.3414	5.3504	1111	Anthracene-D10-	1719-06-8	97
29.3392	1.0099	210	Benzoic acid, 2-ethylhexyl ester	5444-75-7	99

Concentration estimated using the response for Anthracene-d10

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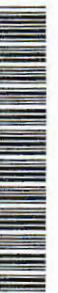
PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

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Chain of Custody Record



Monrovia, CA (Suite 100)
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016
Phone: 626-386-1100

Client Information (Sub Contract Lab)

Client Contact: **Shipping/Receiving**
Company: **Physis Environmental Laboratories**

Address: **1904 Wright Circle,**
City: **Anaheim**
State, Zip: **CA, 92806**
Phone:
Email:
Project Name: **REDHILL**
Site: **Honolulu BWS Sites**

Sampler: **Arada, Rachelle**
Phone:
E-Mail: **Rachelle.Arada@eurofinsus.com**
Accreditations Required (See note): **State - Hawaii**

Date Date Requested: **10/19/2022**
TAT Requested (days):

PO #:
WO #:
Project #: **38001111**
SSOW#:

Carrier Tracking No(s):
State of Origin: **Hawaii**
Page: **1 of 1**
Job #: **380-23130-1**

COC No.: **380-23130-1**

Analysis Requested

Field Filtered Sample (Yes or No)
Perform MS/MSD (Yes or No)

SUB (625 Acid LL (EAL) Physis)/ 625 Acid LL (EAL) Physis
SUB (625 Base Neutral LL (EAL) Physis)/ 625 Base Neutral LL (EAL) Physis
SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs

Preservation Codes

Special Instructions/Note: **See Attached Instructions**

Total Number of Containers: **6**

Other: **A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA**

Sample Identification - Client ID (Lab ID)

Sample Date

Sample Time

Sample Type (G=comp, G=grab)

Matrix (Water, Soil, Sewage, BT=Blood, AA=)

KAAMILO WELLS (331-261-T P008) (380-23130-1)

10/4/22

10:42

Hawaiian

Water

X

X

X

Empty Kit Relinquished by:
Date/Time:
Company:

Relinquished by: **WDM**
Date/Time: **10/14/22**
Company: **CEAT**

Relinquished by:
Date/Time:
Company:

Relinquished by:
Date/Time:
Company:

Relinquished by:
Date/Time:
Company: **Physis**

Custody Seals Intact: Yes No
Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Primary Deliverable Rank: 2
Special Instructions/QC Requirements: **Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**
 Return To Client Disposal By Lab Archive For _____ Months
Method of Shipment:

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/test/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.

Project Iteration ID: 1407003-310
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-23130-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: BH
2. Date Received: 10/6/2027
3. Time Received: 14:25
4. Client Name: _____
5. Courier Information: (Please circle)
 - Client
 - UPS
 - FedEx
 - PHYSIS Driver:
 - i. Start Time: _____
 - ii. End Time: _____
 - Area Fast
 - Ontrac
 - DRS
 - PAMS
- iii. Total Mileage: _____
- iv. Number of Pickups: _____
6. Container Information: (Please put the # of containers or circle none)
 - 1 Cooler
 - ___ Styrofoam Cooler
 - ___ Boxes
 - None
 - ___ Carboy(s)
 - ___ Carboy Trash Can(s)
 - ___ Carboy Cap(s)
 - Other _____
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): 1.0 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:

Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100

Monrovia, CA 91016

Phone: 626-386-1100

Chain of Custody Record



Environment Testing
America

GR

Client Information		Sampler: BAILEY		Lab PM: Arada, Rachelle		Carrier Tracking No(s):		COC No: 380-15739-1845.1					
Client Contact: Dr. Ron Fenstemacher		Phone: 1-808-748-5840		E-Mail: Rachelle.Arada@et.eurofinsus.com		State of Origin:		Page: Page 1 of 3					
Company: City & County of Honolulu				PWSID:		Analysis Requested Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input type="checkbox"/> 504.1_PREC_505_LL_PREC <input type="checkbox"/> 2320B, 2510B, SM4500_H+ <input type="checkbox"/> 200.7, 200.8 <input type="checkbox"/> 2640C_Catcd - Total Dissolved Solids (TDS) <input type="checkbox"/> SM4500_S2_D - Sulfide, Total <input type="checkbox"/> 524.2_Pres_PREC, 524.2_SIM_PREC <input type="checkbox"/> 525.2_PREC - 525plus Plus TICs <input type="checkbox"/> 300_OF_28D_B, 300_OF_28D_PREC, 300_OF_48H_PREC, 4500_F_C <input type="checkbox"/> 245.1 - Local Method <input type="checkbox"/> SUBCONTRACT - 8015 Jet Fuel 8 (JP8) <input type="checkbox"/> SUBCONTRACT - 8015 Jet Fuel 5 (JP5) <input type="checkbox"/> SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil <input type="checkbox"/> SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) <input type="checkbox"/> Total Number of containers:							
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		TAT Requested (days):						Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Preservation Codes:	
City: Honolulu		PO #:		C20525101 exp 05312023						WV #:		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		Project #:		38001111						SSOW#:		Other:	
Phone: 808-748-5091(Tel)		Project Name: RED-HILL		Site: Hawaii									
Email: RFENSTEMACHER@hbws.org		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)					
Special Instructions/Note:													
AIEA GULCH WELLS PUMP 1 (331-201-TP071)								Water					
AIEA GULCH WELLS PUMP 2 (331-202-TP072)								Water					
AIEA WELLS P___ (260) (331-00___-WL10__)								Water					
HALAWA WELLS UNITS 1 & 2 (331-206-TP065)								Water					
MOANALUA WELLS (331-223-TP202)								Water					
HALAWA SHAFT VIEW POOL (331-241-TP401)								Water					
KAAMILO WELLS (331-261-TP008)		Oct 4, 2022		1042		G		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:							
Relinquished by: BAILEY		Date/Time: Oct 04, 2022 1400		Company: HBWS		Received by: Chris Boal		Date/Time: 10-5-22 1000					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									



380-23130 COC



Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100

Monrovia, CA 91016

Phone: 626-386-1100

Chain of Custody Record

GR

Client Information		Sampler: BAILEY		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-15739-1845.2					
Client Contact: Dr. Ron Fenstermacher		Phone: 1-808-748-5840		E-Mail: Rachele.Arada@et.eurofinsus.com		State of Origin:		Page: Page 2 of 3					
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:			
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform IMS/MSD (Yes/No) <input type="checkbox"/> 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 TCPIED/DBCP SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) 504.1_PREC - Local Method						Preservation Codes:			
City: Honolulu		TAT Requested (days):								A - HCL		M - Hexane	
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								B - NaOH		N - None	
Phone: 808-748-5091(Tel)		PO #:								C - Zn Acetate		O - AsNaO2	
Email: RFENSTEMACHER@hbws.org		WO #:								D - Nitric Acid		P - Na2O4S	
Project Name: RED-HILL		Project #: 38001111		E - NaHSO4		Q - Na2SO3							
Site: Hawaii		SSOW#:		F - MeOH		R - Na2S2O3							
				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:							
						Total Number of containers							
						Special Instructions/Note:							
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)					
						Preservation Code:							
AIEA GULCH WELLS PUMP 1 (331-201-TP071)						R		Water					
AIEA GULCH WELLS PUMP 2 (331-202-TP072)						R		Water					
AIEA WELLS P___(260) (331-00___-WL10___)						R		Water					
HALAWA WELLS UNITS 1 & 2 (331-206-TP065)						R		Water					
MOANALUA WELLS (331-223-TP202)						R		Water					
HALAWA SHAFT VIEW POOL (331-241-TP401)						R		Water					
KAAMILO WELLS (331-261-TP008)		Oct 4, 2022		1042		G		Water					
TB: AIEA GULCH WELLS PUMP 1						R		Water					
TB: AIEA GULCH WELLS PUMP 2						R		Water					
TB: AIEA WELLS PUMPS1&2(260)						R		Water					
TB: HALAWA WELLS UNITS 1 & 2						R		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:							
Relinquished by: BAILEY		Date/Time: Oct 4, 2022 1400		Company: HBWS		Received by: Chris Beach		Date/Time: 10-5-22 1000					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:					
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									

Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone: 626-386-1100

Chain of Custody Record



Client Information				Sampler: BAILEY		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-15739-1845.3			
Client Contact: Dr. Ron Fenstemacher				Phone: 1-808-748-5840		E-Mail: Rachele.Arada@et.eurofinsus.com		State of Origin:		Page: Page 3 of 3			
Company: City & County of Honolulu				PWSID:		Analysis Requested						Job #:	
Address: 630 South Beretania Street Chemistry Lab				Due Date Requested:		Field Filtered Sample (Yes or No) <input type="checkbox"/> Perform MS/MSD (Yes or No) <input type="checkbox"/> 504.1_PREC, 505_LL_PREC 2320B, 2510B, SM4500_H+ 200.T, 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)						Preservation Codes:	
City: Honolulu				TAT Requested (days):								M - Hexane	
State, Zip: HI, 96843				Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No								N - None	
Phone: 808-748-5091(Tel)				PO #: C20525101 exp 05312023								O - AsNaO2	
Email: RFENSTEMACHER@hbws.org				WO #:								P - Na2O4S	
Project Name: RED-HILL				Project #: 38001111		Q - Na2SO3							
Site: Hawaii				SSOW#:		R - Na2S2O3							
Sample Identification				Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Other:	
												Special Instructions/Note:	
										Total Number of containers			
TB: MOANALUA WELLS								Water					
TB: HALAWA SHAFT VIEW POOL								Water					
TB: KAAMILO WELLS				Oct 4, 2022		1042		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:					
Relinquished by: BAILEY				Date/Time: 09-04-2022 1400		Company: HBWS		Received by: Chris Pouch		Date/Time: 10-5-22 1000		Company: HBWS	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No				Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks:					

Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100

Monrovia, CA 91016

Phone: 626-386-1100

Chain of Custody Record



Environment Testing America

GR

Client Information		Sampler: BAILEY	Lab PM: Arada, Rachele	Carrier Tracking No(s):	COC No: 380-15739-1845.4																																												
Client Contact: Dr. Ron Fenstemacher		Phone: 1-808-748-5840	E-Mail: Rachele.Arada@et.eurofinsus.com	State of Origin:	Page: Page 4 of 3																																												
Company: City & County of Honolulu		PWSID:	Analysis Requested																																														
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:	<table border="1"> <tr> <td rowspan="5">Field Filtered Sample (Yes or No)</td> <td rowspan="5">Perform MS/MS (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 TOPIED/DBCP</td> <td>SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)</td> <td>504.1_PREC - Local Method</td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>			Field Filtered Sample (Yes or No)	Perform MS/MS (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 TOPIED/DBCP	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	504.1_PREC - Local Method																																			
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City: Honolulu		TAT Requested (days):	<table border="1"> <tr> <td rowspan="4">Total Number of containers</td> <td rowspan="4">Special Instructions/Note:</td> <td>Preservation Codes:</td> </tr> <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> <td>Q - Na2SO3</td> </tr> <tr> <td>E - NaHSO4</td> <td>R - Na2S2O3</td> <td>S - H2SO4</td> </tr> <tr> <td>F - MeOH</td> <td>T - TSP Dodecahydrate</td> <td>U - Acetone</td> </tr> <tr> <td>G - Amchlor</td> <td>V - MCAA</td> <td>W - pH 4-5</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>X - EDTA</td> <td>Y - Trizma</td> </tr> <tr> <td>I - Ice</td> <td>Z - other (specify)</td> <td></td> </tr> <tr> <td>J - DI Water</td> <td></td> <td></td> </tr> <tr> <td>K - EDTA</td> <td></td> <td></td> </tr> <tr> <td>L - EDA</td> <td></td> <td></td> </tr> </table>			Total Number of containers	Special Instructions/Note:	Preservation Codes:	A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	P - Na2O4S	Q - Na2SO3	E - NaHSO4	R - Na2S2O3	S - H2SO4	F - MeOH	T - TSP Dodecahydrate	U - Acetone	G - Amchlor	V - MCAA	W - pH 4-5	H - Ascorbic Acid	X - EDTA	Y - Trizma	I - Ice	Z - other (specify)		J - DI Water			K - EDTA			L - EDA										
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TB: MOANALUA WELLS					Water																																												
TB: HALAWA SHAFT VIEW POOL					Water																																												
TB: KAAMILO WELLS		Oct. 4, 2022	1042		Water																																												
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																																					
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Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																																											
Relinquished by: BAILEY		Date/Time: Oct. 4, 2022 1400		Company: HBWS		Received by: [Signature]		Date/Time: 10:5:22 1000		Company: [Signature]																																							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:																																							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:																																							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																																													

Bottle Order Information

Bottle Order: RED-HILL - Quarterly
 Bottle Order #: 1845
 Request From Client: 9/14/2022
 Date Order Posted: 6/23/2022 7:29:27AM
 Order Status: Ready To Process
 Prepared By: Davis Haley
 Deliver By Date: 9/23/2022 11:59:00PM
 Lab Project Number: 38001111
 PWSID: HI00000331-201-TP071, HI00000331-202-TP072, HI00000

Order Completion Information

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

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
7	6	42	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	504.1_PREC - Local Method	Water	Normal		
					505_LL_PREC - (MOD) ML505 +505-EAL Aldrin Dieldrin Tox	Water	Normal		
7	1	7	Plastic 250ml - unpreserved	None	2320B - (MOD) Total Alkalinity	Water	Normal		
					SM4500_H+ - Local Method	Water	Normal		
					2510B - Conductivity	Water	Normal		
7	1	7	Plastic 500ml - with Nitric Acid	Nitric Acid	200.8 - Metals, Priority Pollutant by 200.8	Water	Normal		
					200.7 - (MOD) Custom	Water	Normal		
7	1	7	Plastic 500ml - unpreserved	None	2540C_Calcd - Total Dissolved Solids (TDS)	Water	Normal		
7	1	7	Plastic 250ml - with Zinc Acetate & NaOH	Zinc Acetate and Sodium Hydroxide	SM4500_S2_D - Sulfide, Total	Water	Normal		
7	6	42	Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	524.2_Pres_PREC - VOASDWA plus TICs + Acetone	Water	Normal		
					524.2_SIM_PREC - TBA by 524.2 SIM	Water	Normal		
7	3	21	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - 525plus Plus TICs	Water	Normal		
7	2	14	Plastic 125mL - unpreserved	None	300_OF_28D_B - Bromide	Water	Normal		
					4500_F_C - Fluoride	Water	Normal		
					300_OF_28D_PREC - Chloride and Sulfate	Water	Normal		
7	1	7	Plastic 250ml - with Nitric Acid	Nitric Acid	300_OF_48H_PREC - Nitrite, Nitrate, and Nitrite+Nitrate	Water	Normal		
					245.1 - Local Method	Water	Normal		

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

7	2	14	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Jet Fuel 8 (JP8)	Water	Normal	
7	2	14	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Jet Fuel 5 (JP5)	Water	Normal	
7	2	14	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal	
7	3	21	Voa Vial 40ml - SodiumThio w/HCL-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal	
7	3	21	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 8015 Ethanol	Water	Normal	2 OUT OF 3 ICE FORMATION
7	2	14	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	
7	2	14	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 Base Neutral LL (EAL) Physis	Water	Normal	
7	2	14	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 Acid LL (EAL) Physis	Water	Normal	
7	3	21	Voa Vial 40ml Amber - Ascorbic & Maleic	Ascorbic Acid/Maleic	524.3_SIM_PREC - Low Level TCP/EDB/DBCP	Water	Normal	
7	2	14	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/H ydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank	
7	6	42	Voa Vial 40ml Amber - Ascor. Acid & HCL	Ascorbic Acid and Hydrochloric Acid	524.2_Pres_PREC - VOASDWA plus TICs + Acetone	Water	Trip Blank	
					524.2_SIM_PREC - TBA by 524.2 SIM	Water	Trip Blank	
7	3	21	Voa Vial 40ml Amber - Sodium thiosulfate	Sodium Thiosulfate	504.1_PREC - Local Method	Water	Trip Blank	
7	2	14	Voa Vial 40ml Amber - Ascorbic & Maleic	Ascorbic Acid/Maleic	524.3_SIM_PREC - Low Level TCP/EDB/DBCP	Water	Trip Blank	

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

ORIGIN ID:HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

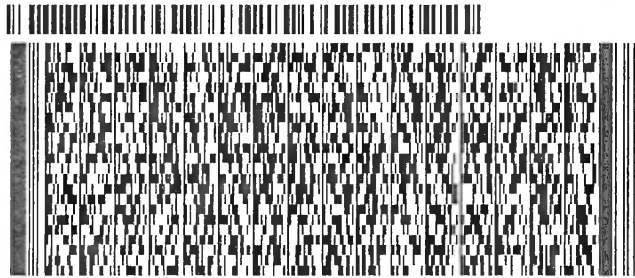
SHIP DATE: 04OCT22
ACTWGT: 54.00 LB
CAD: 100205419/NET4530

BILL RECIPIENT

TO **M. A. VASQUEZ**
EUROFINS EATON ANALYTICAL, INC
750 ROYAL OAKS DR
SUITE 100
MONROVIA CA 91016

(626) 386-1178 REF:
INV. PO: DEPT:

581J1VAC5FIE2D



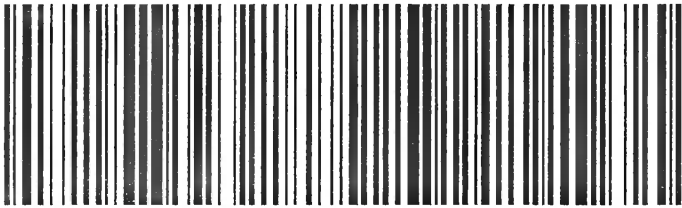
JZZ302081201UV

WED - 05 OCT 10:30A
PRIORITY OVERNIGHT

2 of 4
MPS# 7701 1532 1291
0263
Mstr# 7701 1532 0744 0201

WZ WHPA

91016
CA-US BUR



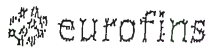
After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.





Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 401 (Observation = 3.0 °C) (Corr. Factor 0.1 °C) (Final = 3.5 °C)

TYPE OF ICE: Real Synthetic No Ice CONDITION OF ICE: Frozen Partially Frozen Thawed N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤ 6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥ 10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)	2 = (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)
3 = (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)	4 = (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)

4 Dioxin (1813 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

5) pH Check. Manufacturer: _____ Lot Number: _____ pH strip type: 0 - 14 or _____ Expiration Date _____ Results: _____

6) Chlorine check. Manufacturer: Sansafe. Lot No.: _____ Expiration Date: _____ Results: _____

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

Headspace Documentation (use additional VOG and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 816.4, HAA(8261,882), 508, 8PME, @CH, 532LCMS, 888, 838, Anatoxin, LCMS methods using 40 ml vials, International olants;

Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): _____

RECEIVED BY: <u>Chris Boal</u>	SIGNATURE: <u>[Signature]</u>	PRINT NAME: <u>Chris Boal</u>	COMPANY/TITLE: <u>Eurofins Eaton Analytical</u>	DATE: <u>10.5.22</u>	TIME: <u>1000</u>
SAMPLES CHECKED AGAINST COC BY: <u>[Signature]</u>	SIGNATURE: <u>[Signature]</u>	PRINT NAME: <u>G. REITNER</u>	COMPANY/TITLE: <u>Eurofins Eaton Analytical</u>	DATE: <u>10/05/2022</u>	TIME: <u>15:25</u>

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:
 Note! If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.
 SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 401 (Observation = 1.6 °C) (Corr. Factor = 0.1 °C) (Final = 1.5 °C)

TYPE OF ICE: Real Synthetic No Ice CONDITION OF ICE: Frozen Partially Frozen Thawed N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (If received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (If received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	2 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)
3 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	4 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)

4 Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (If received after 24 hrs of sample collection)

5) pH Check, Manufacturer: _____ Lot Number: _____ pH strip type: 0 - 14 or _____ Expiration Date _____ Results: _____

6) Chlorine check, Manufacturer: Sansafe, Lot No.: _____ Expiration Date: _____ Results: _____

7) VOA and Radon Headspace: No Samples with Headspace: Samples with Headspace (see below):

Headspace Documentation (use additional VOG and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 816.4, HAA (8261, 862), 808, 87ME, @CH, 832LCMS, 868, 838, Anatoxin, LCMS methods using 40 ml vials, International clients;

Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): _____

RECEIVED BY: <u>Chris Beach</u>	SIGNATURE: <u>Chris Beach</u>	PRINT NAME: <u>Chris Beach</u>	COMPANY/TITLE: <u>Eurofins Eaton Analytical</u>	DATE: <u>10-5-22</u>	TIME: <u>1000</u>
SAMPLES CHECKED AGAINST COC BY: <u>[Signature]</u>	SIGNATURE: <u>[Signature]</u>	PRINT NAME: <u>G. REITNER</u>	COMPANY/TITLE: <u>Eurofins Eaton Analytical</u>	DATE: <u>10/05/2022</u>	TIME: <u>15:25</u>

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:
 Note! If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.
 SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 401 (Observation = 5.0 °C) (Corr. Factor = -0.1 °C) (Final = 4.9 °C)

TYPE OF ICE: Real Synthetic No Ice CONDITION OF ICE: Frozen Partially Frozen Thawed N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (If received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (If received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	2 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)
3 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	4 = (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)

4 Dioxin (1813 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (If received after 24 hrs of sample collection)

5) pH Check, Manufacturer: _____ Lot Number: _____ pH strip type: 0 - 14 or _____ Expiration Date: _____ Results: _____

6) Chlorine check, Manufacturer: Sansafe, Lot No.: _____ Expiration Date: _____ Results: _____

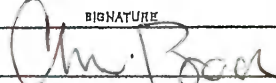

7) VOA and Radon Headspace: No Samples with Headspace: Samples with Headspace (see below):

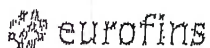
Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Example from headspace concerns: Methods 818.4, HAA(8251,852), 508, 8FME, @CH, 532LCMS, 558, 538, Anatoxin, LCMS methods using 40 ml vials, International dilants;

Samp ID				Samp ID				Samp ID				Samp ID			
Bottle #	Nona/<8 mm	>8mm	Test	Bottle #	Nona/<8 mm	>8mm	Test	Bottle #	Nona/<8 mm	>8mm	Test	Bottle #	Nona/<8 mm	>8mm	Test

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): _____

RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		Chris Boehl	Eurofins Eaton Analytical	10/5/22	1000
SAMPLES CHECKED AGAINST COC BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		G. REUTNER	Eurofins Eaton Analytical	10/05/2022	15:25



Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: _____

SAMPLE TEMP RECEIVED!

Note: If samples are out of temperature range, let the ASMs know, ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 401 (Observation = 3.1 °C) (Corr. Factor = -0.1 °C) (Final = 3.0 °C)

TYPE OF ICE: Real _____ Synthetic No Ice _____ CONDITION OF ICE: Frozen Partially Frozen _____ Thawed _____ N/A _____

METHOD OF SHIPMENT: Pick-Up / Walk-In FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	2 (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)
3 (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)	4 (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C)

4 Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

5) pH Check. Manufacturer: _____ Lot Number: _____ pH strip type: 0 - 14 or _____ Expiration Date _____ Results: _____

6) Chlorine check. Manufacturer: Sansafe. Lot No.: _____ Expiration Date: _____ Results: _____

7) VOA and Radon Headspace: No Samples with Headspace: Samples with Headspace (see below):

Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Example from headspace concerns: Methods 816.4, HAA(8281,852), 508, 8PME, @CH, 832LCMS, 808, 838, Anatoxin, LCMS methods using 40 ml vials, International Ollants;

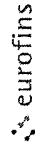
Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	Samp ID	Bottle #	None/<8 mm	>8mm	Test	

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): _____

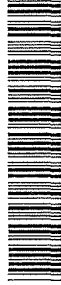
SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	Chris Boehl	Eurofins Eaton Analytical	10-5-22	1000
SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	G. REITNER	Eurofins Eaton Analytical	10/05/2022	15:25

Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone 626-386-1100

Chain of Custody Record



Enviro T st prep
 10/21/22



Client Information (Sub Contract Lab)		Lab PM Arada, Rachelle	Carrier Tracking No(s) 380-23105-1																																								
Client Contact: Shipping/Receiving		E-Mail: Rachelle Arada@et eurofins.com	Page Page 1 of 1																																								
Company: Eurofins Environment Testing Southwest,		Accreditations Required (See note) State - Hawaii	Job # 380-23130-1																																								
Address 2841 Dow Avenue, Suite 100,		Analysis Requested																																									
City Tustin	Due Date Requested 10/25/2022	<table border="1"> <thead> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>Total Number of Containers</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>X</td> <td>1</td> <td></td> </tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </tbody> </table>		Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Note:	X	X	1																																	
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)			Total Number of Containers	Special Instructions/Note:																																						
X	X			1																																							
State Zip CA, 92780	TAT Requested (days)																																										
Phone 714-895-5494(Tel)	PO #																																										
Email:	WO #																																										
Project Name RED-HILL	Project # 3800111																																										
Site Honolulu BWS Sites	SSOW#																																										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time																																								
KAAMILC WELLS (331-261-TP008) (380-23130-1)		10/4/22	10 42 Hawaiian																																								
Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=Air)		Sample Type (C=comp, G=grab)	Preservation Code																																								
			Water																																								

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/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
 Unconfirmed Return To Client Disposal By Lab Archive For _____ Months
 Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Empty Kit Relinquished by _____ Date _____
 Relinquished by _____ Date/Time 10/6/22 Company
 Relinquished by _____ Date/Time 10/6/22 Company
 Relinquished by _____ Date/Time _____ Company
 Custody Seals Intact: Yes No
 Custody Seal No _____
 Cooler Temperature(s) °C and Other Remarks 1-8/1.6 SCR



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-23130-1

Login Number: 23130

List Number: 1

Creator: Elyas, Matthew

List Source: Eurofins Eaton Monrovia

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-23130-1

Login Number: 23130
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins Calscience
List Creation: 10/06/22 07:35 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	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	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
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	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Eaton Monrovia

Job Notes

Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

Test results relate only to the sample(s) tested.

Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

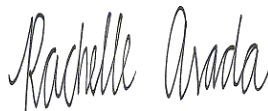
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This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

Compliance Statement

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

Authorization



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