

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 308
Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
RUSH Weekly Red Hill

JOB NUMBER

380-36166-1

Eurofins Eaton Analytical Pomona

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).

This report shall not be reproduced except in full, without the written approval of the laboratory.

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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Authorized for release by
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Definitions/Glossary

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

Job ID: 380-36166-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
^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
T	Result is a tentatively identified compound (TIC) and an estimated value.

LCMS

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.

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
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: 380-36166-1

Job ID: 380-36166-1

Laboratory: Eurofins Eaton Analytical Pomona

Narrative

Job Narrative 380-36166-1

Comments

No additional comments.

Receipt

The samples were received on 2/1/2023 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2° C.

GC/MS Semi VOA

Method 525.2: The matrix spike (MS) recoveries for preparation batch 380-31502 and analytical batch 380-31772 were outside below control limits for: Anthracene. Sample matrix interference is suspected because the associated laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recovery was within acceptance limits.

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

LCMS

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

Subcontract non-Sister

See attached subcontract report.

Organic Prep

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

Subcontract Work

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

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

Detection Summary

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-36166-1

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-36166-2

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-36166-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-36166-4

No Detections.

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-5

No Detections.

Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-6

No Detections.

Client Sample ID: TB: HALAWA WELLS UNITS 1&2
(331-206-TP065)

Lab Sample ID: 380-36166-7

No Detections.

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-36166-8

No Detections.

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-9

No Detections.

Client Sample ID: FB:AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Detection Summary

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

Job ID: 380-36166-1

**Client Sample ID: FB:HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-11

☐ No Detections.

**Client Sample ID: FB:AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-12

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

Date Collected: 01/30/23 09:46

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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		02/03/23 06:37	02/06/23 16:54	1
2,4'-DDE	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
2,4'-DDT	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
2,4-Dinitrotoluene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
2,6-Dinitrotoluene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
4,4'-DDD	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
4,4'-DDE	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
4,4'-DDT	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Acenaphthene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Acenaphthylene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Acetochlor	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Alachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
alpha-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
alpha-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Anthracene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 16:54	1
Atrazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Benz(a)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Benzo[a]pyrene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 16:54	1
Benzo[b]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 16:54	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Benzo[k]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 16:54	1
beta-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Bromacil	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Butachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Butylbenzylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 16:54	1
Caffeine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Chlorobenzilate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Chloroneb	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Chlorpyrifos	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Chrysene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 16:54	1
delta-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 16:54	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 16:54	1
Diazinon (Qualitative)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Diclorvos (DDVP)	ND	*+	0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Dieldrin	ND		0.20	ug/L		02/03/23 06:37	02/06/23 16:54	1
Diethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 16:54	1
Dimethoate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Dimethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 16:54	1
Di-n-butyl phthalate	ND		0.98	ug/L		02/03/23 06:37	02/06/23 16:54	1
Di-n-octyl phthalate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Endosulfan I (Alpha)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Endosulfan II (Beta)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Endosulfan sulfate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Endrin	ND	*+	0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Endrin aldehyde	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
EPTC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

Date Collected: 01/30/23 09:46

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Fluorene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
gamma-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Heptachlor	ND		0.039	ug/L		02/03/23 06:37	02/06/23 16:54	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Hexachlorobenzene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Isophorone	ND	*+	0.49	ug/L		02/03/23 06:37	02/06/23 16:54	1
Lindane	ND		0.039	ug/L		02/03/23 06:37	02/06/23 16:54	1
Malathion	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Methoxychlor	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Metolachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Metribuzin	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Molinate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Naphthalene	ND		0.29	ug/L		02/03/23 06:37	02/06/23 16:54	1
Parathion	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		02/03/23 06:37	02/06/23 16:54	1
Phenanthrene	ND		0.039	ug/L		02/03/23 06:37	02/06/23 16:54	1
Propachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Simazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Terbacil	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Terbutylazine	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1
Thiobencarb	ND		0.20	ug/L		02/03/23 06:37	02/06/23 16:54	1
trans-Nonachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 16:54	1
Trifluralin	ND		0.098	ug/L		02/03/23 06:37	02/06/23 16:54	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	02/03/23 06:37	02/06/23 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	104		70 - 130	02/03/23 06:37	02/06/23 16:54	1
Triphenylphosphate	90		70 - 130	02/03/23 06:37	02/06/23 16:54	1
Perylene-d12	92		70 - 130	02/03/23 06:37	02/06/23 16:54	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

Date Collected: 01/30/23 09:46

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	76		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C6 PFDA	89		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C5 PFHxA	81		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C4 PFHpA	83		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C8 PFOA	84		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C9 PFNA	86		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C7 PFUnA	100		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C2 PFDoA	91		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C4 PFBA	86		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C5 PFPeA	82		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C3 PFBS	108		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C3 PFHxS	108		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C8 PFOS	111		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C2-4:2-FTS	119		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C2-6:2-FTS	118		50 - 200	02/02/23 12:35	02/04/23 04:11	1
13C2-8:2-FTS	111		50 - 200	02/02/23 12:35	02/04/23 04:11	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

Date Collected: 01/30/23 09:46

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130	02/02/23 07:42	02/03/23 17:06	1
13C2 PFHxA	111		70 - 130	02/02/23 07:42	02/03/23 17:06	1
13C2 PFDA	103		70 - 130	02/02/23 07:42	02/03/23 17:06	1
13C3-GenX	109		70 - 130	02/02/23 07:42	02/03/23 17:06	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		02/02/23 00:00	02/19/23 01:10	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Acenaphthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Acenaphthylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Biphenyl	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Chrysene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Dibenzo[a,i]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Dibenzothiophene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Disalicylideneopropanediamine	ND		0.1	0.05	µg/L		02/02/23 00:00	02/19/23 01:10	1
Fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Fluorene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Naphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

Date Collected: 01/30/23 09:46

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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
Perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Phenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 01:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	97		27 - 133				02/02/23 00:00	02/19/23 01:10	1
(d10-Phenanthrene)	98		43 - 129				02/02/23 00:00	02/19/23 01:10	1
(d12-Chrysene)	104		52 - 144				02/02/23 00:00	02/19/23 01:10	1
(d12-Perylene)	95		36 - 161				02/02/23 00:00	02/19/23 01:10	1
(d8-Naphthalene)	87		25 - 125				02/02/23 00:00	02/19/23 01:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/03/23 14:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	84		60 - 140					02/03/23 14:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			02/10/23 20:11	1
JP5	ND	U	0.050		mg/L			02/10/23 20:11	1
JP8	ND	U	0.050		mg/L			02/10/23 20:11	1
MOTOR OIL	ND	U	0.050		mg/L			02/10/23 20:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	103		60 - 130					02/10/23 20:11	1
HEXACOSANE	105		60 - 130					02/10/23 20:11	1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-36166-2

Date Collected: 01/30/23 10:43

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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		02/03/23 06:37	02/06/23 17:14	1
2,4'-DDE	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
2,4'-DDT	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
2,4-Dinitrotoluene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
2,6-Dinitrotoluene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
4,4'-DDD	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
4,4'-DDE	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
4,4'-DDT	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Acenaphthene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Acenaphthylene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Acetochlor	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Alachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
alpha-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
alpha-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Anthracene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:14	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-2

Date Collected: 01/30/23 10:43

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Atrazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Benz(a)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Benzo[a]pyrene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:14	1
Benzo[b]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:14	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Benzo[k]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:14	1
beta-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Bromacil	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Butachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Butylbenzylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:14	1
Caffeine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Chlorobenzilate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Chloroneb	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Chlorpyrifos	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Chrysene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:14	1
delta-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 17:14	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 17:14	1
Diazinon (Qualitative)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Diclorvos (DDVP)	ND	*+	0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Dieldrin	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:14	1
Diethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:14	1
Dimethoate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Dimethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:14	1
Di-n-butyl phthalate	ND		0.98	ug/L		02/03/23 06:37	02/06/23 17:14	1
Di-n-octyl phthalate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Endosulfan I (Alpha)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Endosulfan II (Beta)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Endosulfan sulfate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Endrin	ND	*+	0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Endrin aldehyde	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
EPTC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Fluoranthene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Fluorene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
gamma-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Heptachlor	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:14	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Hexachlorobenzene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Isophorone	ND	*+	0.49	ug/L		02/03/23 06:37	02/06/23 17:14	1
Lindane	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:14	1
Malathion	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Methoxychlor	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Metolachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Metribuzin	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-2

Date Collected: 01/30/23 10:43

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molinate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Naphthalene	ND		0.29	ug/L		02/03/23 06:37	02/06/23 17:14	1
Parathion	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:14	1
Phenanthrene	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:14	1
Propachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Simazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Terbacil	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Terbutylazine	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1
Thiobencarb	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:14	1
trans-Nonachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:14	1
Trifluralin	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:14	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	02/03/23 06:37	02/06/23 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	106		70 - 130	02/03/23 06:37	02/06/23 17:14	1
Triphenylphosphate	101		70 - 130	02/03/23 06:37	02/06/23 17:14	1
Perylene-d12	98		70 - 130	02/03/23 06:37	02/06/23 17:14	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-2

Date Collected: 01/30/23 10:43

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:20	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C6 PFDA	99		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C5 PFHxA	94		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C4 PFHpA	96		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C8 PFOA	99		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C9 PFNA	104		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C7 PFUnA	107		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C2 PFDoA	100		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C4 PFBA	100		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C5 PFPeA	96		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C3 PFBS	100		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C3 PFHxS	103		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C8 PFOS	100		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C2-4:2-FTS	110		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C2-6:2-FTS	104		50 - 200			02/02/23 12:35	02/04/23 04:20	1
13C2-8:2-FTS	103		50 - 200			02/02/23 12:35	02/04/23 04:20	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-2

Date Collected: 01/30/23 10:43

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	114		70 - 130			02/02/23 07:42	02/03/23 17:16	1
13C2 PFHxA	109		70 - 130			02/02/23 07:42	02/03/23 17:16	1
13C2 PFDA	100		70 - 130			02/02/23 07:42	02/03/23 17:16	1
13C3-GenX	103		70 - 130			02/02/23 07:42	02/03/23 17:16	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		02/02/23 00:00	02/19/23 02:54	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Acenaphthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Acenaphthylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Biphenyl	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Chrysene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Dibenzothiophene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		02/02/23 00:00	02/19/23 02:54	1
Fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Fluorene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Naphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Phenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 02:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	102		27 - 133				02/02/23 00:00	02/19/23 02:54	1
(d10-Phenanthrene)	101		43 - 129				02/02/23 00:00	02/19/23 02:54	1
(d12-Chrysene)	108		52 - 144				02/02/23 00:00	02/19/23 02:54	1
(d12-Perylene)	100		36 - 161				02/02/23 00:00	02/19/23 02:54	1
(d8-Naphthalene)	94		25 - 125				02/02/23 00:00	02/19/23 02:54	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Date Collected: 01/30/23 10:43

Date Received: 02/01/23 10:15

Lab Sample ID: 380-36166-2

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/03/23 16:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	81		60 - 140					02/03/23 16:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			02/10/23 20:29	1
JP5	ND	U	0.048		mg/L			02/10/23 20:29	1
JP8	ND	U	0.048		mg/L			02/10/23 20:29	1
MOTOR OIL	ND	U	0.048		mg/L			02/10/23 20:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	95		60 - 130					02/10/23 20:29	1
HEXACOSANE	108		60 - 130					02/10/23 20:29	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)

Date Collected: 01/30/23 10:15

Date Received: 02/01/23 10:15

Lab Sample ID: 380-36166-3

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
2,4'-DDE	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
2,4'-DDT	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
2,4-Dinitrotoluene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
2,6-Dinitrotoluene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
4,4'-DDD	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
4,4'-DDE	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
4,4'-DDT	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Acenaphthene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Acenaphthylene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Acetochlor	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Alachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
alpha-BHC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
alpha-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Anthracene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:35	1
Atrazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Benz(a)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Benzo[a]pyrene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:35	1
Benzo[b]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:35	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Benzo[k]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:35	1
beta-BHC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Bromacil	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Butachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Butylbenzylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:35	1
Caffeine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-3

Date Collected: 01/30/23 10:15

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzilate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Chloroneb	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Chlorpyrifos	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Chrysene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:35	1
delta-BHC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 17:35	1
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 17:35	1
Diazinon (Qualitative)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Diclorvos (DDVP)	ND	*+	0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Dieldrin	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:35	1
Diethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:35	1
Dimethoate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Dimethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:35	1
Di-n-butyl phthalate	ND		0.99	ug/L		02/03/23 06:37	02/06/23 17:35	1
Di-n-octyl phthalate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Endosulfan I (Alpha)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Endosulfan II (Beta)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Endosulfan sulfate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Endrin	ND	*+	0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Endrin aldehyde	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
EPTC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Fluoranthene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Fluorene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
gamma-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Heptachlor	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:35	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Hexachlorobenzene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Isophorone	ND	*+	0.49	ug/L		02/03/23 06:37	02/06/23 17:35	1
Lindane	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:35	1
Malathion	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Methoxychlor	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Metolachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Metribuzin	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Molinate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Naphthalene	ND		0.30	ug/L		02/03/23 06:37	02/06/23 17:35	1
Parathion	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:35	1
Phenanthrene	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:35	1
Propachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Simazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Terbacil	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1
Terbutylazine	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-3

Date Collected: 01/30/23 10:15

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:35	1
trans-Nonachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:35	1
Trifluralin	ND		0.099	ug/L		02/03/23 06:37	02/06/23 17:35	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	02/03/23 06:37	02/06/23 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	108		70 - 130	02/03/23 06:37	02/06/23 17:35	1
Triphenylphosphate	98		70 - 130	02/03/23 06:37	02/06/23 17:35	1
Perylene-d12	92		70 - 130	02/03/23 06:37	02/06/23 17:35	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorooctanesulfonic acid (PFOS)	2.0		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoropentanoic acid (PFPeA)	2.1		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1

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Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-3

Date Collected: 01/30/23 10:15

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:30	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C6 PFDA	90		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C5 PFHxA	80		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C4 PFHpA	79		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C8 PFOA	85		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C9 PFNA	88		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C7 PFUnA	104		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C2 PFDoA	95		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C4 PFBA	94		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C5 PFPeA	87		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C3 PFBS	104		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C3 PFHxS	101		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C8 PFOS	103		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C2-4:2-FTS	116		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C2-6:2-FTS	115		50 - 200			02/02/23 12:35	02/04/23 04:30	1
13C2-8:2-FTS	108		50 - 200			02/02/23 12:35	02/04/23 04:30	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorooctanesulfonic acid (PFOS)	2.0		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorohexanoic acid (PFHxA)	2.0		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130			02/02/23 07:42	02/03/23 17:26	1

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Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Date Collected: 01/30/23 10:15

Date Received: 02/01/23 10:15

Lab Sample ID: 380-36166-3

Matrix: Drinking Water

PWSID Number: HI0000331

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	116		70 - 130	02/02/23 07:42	02/03/23 17:26	1
13C2 PFDA	104		70 - 130	02/02/23 07:42	02/03/23 17:26	1
13C3-GenX	103		70 - 130	02/02/23 07:42	02/03/23 17:26	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		02/02/23 00:00	02/19/23 04:39	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Acenaphthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Acenaphthylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Biphenyl	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Chrysene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Dibenzothiophene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Disalicylidenepranediimine	ND		0.1	0.05	µg/L		02/02/23 00:00	02/19/23 04:39	1
Fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Fluorene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Naphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Phenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1
Pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 04:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	100		27 - 133	02/02/23 00:00	02/19/23 04:39	1
(d10-Phenanthrene)	98		43 - 129	02/02/23 00:00	02/19/23 04:39	1
(d12-Chrysene)	108		52 - 144	02/02/23 00:00	02/19/23 04:39	1
(d12-Perylene)	100		36 - 161	02/02/23 00:00	02/19/23 04:39	1
(d8-Naphthalene)	94		25 - 125	02/02/23 00:00	02/19/23 04:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/03/23 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140		02/03/23 16:56	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Date Collected: 01/30/23 10:15

Date Received: 02/01/23 10:15

Lab Sample ID: 380-36166-3

Matrix: Drinking Water

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.024		mg/L			02/10/23 20:48	1
JP5	ND	U	0.049		mg/L			02/10/23 20:48	1
JP8	ND	U	0.049		mg/L			02/10/23 20:48	1
MOTOR OIL	ND	U	0.049		mg/L			02/10/23 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	87		60 - 130		02/10/23 20:48	1
HEXACOSANE	97		60 - 130		02/10/23 20:48	1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Date Collected: 01/30/23 11:13

Date Received: 02/01/23 10:15

Lab Sample ID: 380-36166-4

Matrix: Drinking Water

PWSID Number: HI0000331

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		02/03/23 06:37	02/06/23 17:55	1
2,4'-DDE	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
2,4'-DDT	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
2,4-Dinitrotoluene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
2,6-Dinitrotoluene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
4,4'-DDD	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
4,4'-DDE	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
4,4'-DDT	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Acenaphthene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Acenaphthylene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Acetochlor	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Alachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
alpha-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
alpha-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Anthracene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:55	1
Atrazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Benz(a)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Benzo[a]pyrene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:55	1
Benzo[b]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:55	1
Benzo[g,h,i]perylene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Benzo[k]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:55	1
beta-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Bromacil	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Butachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Butylbenzylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:55	1
Caffeine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Chlorobenzilate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Chloroneb	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Chlorothalonil (Draconil, Bravo)	ND	^3+	0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Chlorpyrifos	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Chrysene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 17:55	1
delta-BHC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Di(2-ethylhexyl)adipate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 17:55	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-4

Date Collected: 01/30/23 11:13

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		0.59	ug/L		02/03/23 06:37	02/06/23 17:55	1
Diazinon (Qualitative)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Dibenz(a,h)anthracene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Diclorvos (DDVP)	ND	+	0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Dieldrin	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:55	1
Diethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:55	1
Dimethoate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Dimethylphthalate	ND		0.49	ug/L		02/03/23 06:37	02/06/23 17:55	1
Di-n-butyl phthalate	ND		0.98	ug/L		02/03/23 06:37	02/06/23 17:55	1
Di-n-octyl phthalate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Endosulfan I (Alpha)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Endosulfan II (Beta)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Endosulfan sulfate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Endrin	ND	+	0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Endrin aldehyde	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
EPTC	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Fluoranthene	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Fluorene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
gamma-Chlordane	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Heptachlor	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:55	1
Heptachlor epoxide (isomer B)	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Hexachlorobenzene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Hexachlorocyclopentadiene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Indeno[1,2,3-cd]pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Isophorone	ND	+	0.49	ug/L		02/03/23 06:37	02/06/23 17:55	1
Lindane	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:55	1
Malathion	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Methoxychlor	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Metolachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Metribuzin	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Molinate	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Naphthalene	ND		0.29	ug/L		02/03/23 06:37	02/06/23 17:55	1
Parathion	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Pendimethalin (Penoxaline)	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:55	1
Phenanthrene	ND		0.039	ug/L		02/03/23 06:37	02/06/23 17:55	1
Propachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Pyrene	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Simazine	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Terbacil	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Terbutylazine	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1
Thiobencarb	ND		0.20	ug/L		02/03/23 06:37	02/06/23 17:55	1
trans-Nonachlor	ND		0.049	ug/L		02/03/23 06:37	02/06/23 17:55	1
Trifluralin	ND		0.098	ug/L		02/03/23 06:37	02/06/23 17:55	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	02/03/23 06:37	02/06/23 17:55	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-4

Date Collected: 01/30/23 11:13

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	106		70 - 130	02/03/23 06:37	02/06/23 17:55	1
Triphenylphosphate	95		70 - 130	02/03/23 06:37	02/06/23 17:55	1
Perylene-d12	92		70 - 130	02/03/23 06:37	02/06/23 17:55	1

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 01:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	64		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C6 PFDA	83		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C5 PFHxA	73		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C4 PFHpA	72		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C8 PFOA	75		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C9 PFNA	82		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C7 PFUnA	97		50 - 200	02/02/23 12:35	02/04/23 01:35	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-4

Date Collected: 01/30/23 11:13

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	91		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C4 PFBA	78		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C5 PFPeA	77		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C3 PFBS	111		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C3 PFHxS	108		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C8 PFOS	109		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C2-4:2-FTS	120		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C2-6:2-FTS	108		50 - 200	02/02/23 12:35	02/04/23 01:35	1
13C2-8:2-FTS	113		50 - 200	02/02/23 12:35	02/04/23 01:35	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	107		70 - 130			02/02/23 07:42	02/03/23 17:35	1
13C2 PFHxA	115		70 - 130			02/02/23 07:42	02/03/23 17:35	1
13C2 PFDA	107		70 - 130			02/02/23 07:42	02/03/23 17:35	1
13C3-GenX	109		70 - 130			02/02/23 07:42	02/03/23 17:35	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		02/02/23 00:00	02/19/23 06:23	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-4

Date Collected: 01/30/23 11:13

Matrix: Drinking Water

Date Received: 02/01/23 10:15

PWSID Number: HI0000331

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
Acenaphthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Acenaphthylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Biphenyl	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Chrysene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Dibenzothiophene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Disalicylideneopropanediamine	ND		0.1	0.05	µg/L		02/02/23 00:00	02/19/23 06:23	1
Fluoranthene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Fluorene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Naphthalene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Perylene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Phenanthrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1
Pyrene	ND		0.005	0.001	µg/L		02/02/23 00:00	02/19/23 06:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	98		27 - 133	02/02/23 00:00	02/19/23 06:23	1
(d10-Phenanthrene)	101		43 - 129	02/02/23 00:00	02/19/23 06:23	1
(d12-Chrysene)	74		52 - 144	02/02/23 00:00	02/19/23 06:23	1
(d12-Perylene)	75		36 - 161	02/02/23 00:00	02/19/23 06:23	1
(d8-Naphthalene)	91		25 - 125	02/02/23 00:00	02/19/23 06:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/04/23 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	84		60 - 140		02/04/23 16:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			02/10/23 21:06	1
JP5	ND	U	0.052		mg/L			02/10/23 21:06	1
JP8	ND	U	0.052		mg/L			02/10/23 21:06	1
MOTOR OIL	ND	U	0.052		mg/L			02/10/23 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE	105		60 - 130		02/10/23 21:06	1
HEXACOSANE	101		60 - 130		02/10/23 21:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-5

Date Collected: 01/30/23 09:46

Matrix: Water

Date Received: 02/01/23 10:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/04/23 17:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140					02/04/23 17:14	1

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

Lab Sample ID: 380-36166-6

(331-203-TP400)

Date Collected: 01/30/23 10:43

Matrix: Water

Date Received: 02/01/23 10:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/04/23 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	83		60 - 140					02/04/23 17:50	1

Client Sample ID: TB: HALAWA WELLS UNITS 1&2

Lab Sample ID: 380-36166-7

(331-206-TP065)

Date Collected: 01/30/23 10:15

Matrix: Water

Date Received: 02/01/23 10:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/04/23 18:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	83		60 - 140					02/04/23 18:26	1

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-36166-8

Date Collected: 01/30/23 11:13

Matrix: Water

Date Received: 02/01/23 10:15

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/04/23 19:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	85		60 - 140					02/04/23 19:02	1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-9

Date Collected: 01/30/23 09:46

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-9

Date Collected: 01/30/23 09:46

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:39	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	106		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C6 PFDA	112		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C5 PFHxA	109		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C4 PFHpA	107		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C8 PFOA	107		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C9 PFNA	112		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C7 PFUnA	111		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C2 PFDoA	105		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C4 PFBA	112		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C5 PFPeA	110		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C3 PFBS	99		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C3 PFHxS	106		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C8 PFOS	104		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C2-4:2-FTS	109		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C2-6:2-FTS	106		50 - 200			02/02/23 12:35	02/04/23 04:39	1
13C2-8:2-FTS	112		50 - 200			02/02/23 12:35	02/04/23 04:39	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-9

Date Collected: 01/30/23 09:46

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130	02/02/23 07:42	02/03/23 17:45	1
13C2 PFHxA	109		70 - 130	02/02/23 07:42	02/03/23 17:45	1
13C2 PFDA	102		70 - 130	02/02/23 07:42	02/03/23 17:45	1
13C3-GenX	108		70 - 130	02/02/23 07:42	02/03/23 17:45	1

Client Sample ID: FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-36166-10

Date Collected: 01/30/23 10:43

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: FB:AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-36166-10

Date Collected: 01/30/23 10:43

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:49	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C6 PFDA	106		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C5 PFHxA	99		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C4 PFHpA	106		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C8 PFOA	100		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C9 PFNA	106		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C7 PFUnA	111		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C2 PFDoA	106		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C4 PFBA	99		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C5 PFPeA	97		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C3 PFBS	104		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C3 PFHxS	107		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C8 PFOS	111		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C2-4:2-FTS	111		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C2-6:2-FTS	109		50 - 200			02/02/23 12:35	02/04/23 04:49	1
13C2-8:2-FTS	105		50 - 200			02/02/23 12:35	02/04/23 04:49	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

Client Sample ID: FB:AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)

Lab Sample ID: 380-36166-10

Date Collected: 01/30/23 10:43

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 17:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			02/02/23 07:42	02/03/23 17:54	1
13C2 PFHxA	106		70 - 130			02/02/23 07:42	02/03/23 17:54	1
13C2 PFDA	100		70 - 130			02/02/23 07:42	02/03/23 17:54	1
13C3-GenX	105		70 - 130			02/02/23 07:42	02/03/23 17:54	1

Client Sample ID: FB:HALAWA WELLS UNITS 1 & 2
(331-206-TP065)

Lab Sample ID: 380-36166-11

Date Collected: 01/30/23 10:15

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: FB:HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-11

Date Collected: 01/30/23 10:15

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 04:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C6 PFDA	102		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C5 PFHxA	98		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C4 PFHpA	99		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C8 PFOA	101		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C9 PFNA	103		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C7 PFUnA	106		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C2 PFDoA	106		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C4 PFBA	98		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C5 PFPeA	96		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C3 PFBS	104		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C3 PFHxS	106		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C8 PFOS	109		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C2-4:2-FTS	115		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C2-6:2-FTS	109		50 - 200	02/02/23 12:35	02/04/23 04:58	1
13C2-8:2-FTS	106		50 - 200	02/02/23 12:35	02/04/23 04:58	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1

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Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: FB:HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-11

Date Collected: 01/30/23 10:15

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Perfluorotridecanoic acid (PFTDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			02/02/23 07:42	02/03/23 18:04	1
13C2 PFHxA	110		70 - 130			02/02/23 07:42	02/03/23 18:04	1
13C2 PFDA	106		70 - 130			02/02/23 07:42	02/03/23 18:04	1
13C3-GenX	109		70 - 130			02/02/23 07:42	02/03/23 18:04	1

**Client Sample ID: FB:AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-12

Date Collected: 01/30/23 11:13

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: FB:AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-12

Date Collected: 01/30/23 11:13

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 05:08	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	102		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C6 PFDA	117		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C5 PFHxA	109		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C4 PFHpA	112		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C8 PFOA	113		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C9 PFNA	114		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C7 PFUnA	114		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C2 PFDoA	109		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C4 PFBA	114		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C5 PFPeA	111		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C3 PFBS	106		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C3 PFHxS	108		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C8 PFOS	109		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C2-4:2-FTS	110		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C2-6:2-FTS	114		50 - 200			02/02/23 12:35	02/04/23 05:08	1
13C2-8:2-FTS	117		50 - 200			02/02/23 12:35	02/04/23 05:08	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1

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Client Sample Results

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

Job ID: 380-36166-1

**Client Sample ID: FB:AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-12

Date Collected: 01/30/23 11:13

Matrix: Water

Date Received: 02/01/23 10:15

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 18:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130			02/02/23 07:42	02/03/23 18:14	1
13C2 PFHxA	108		70 - 130			02/02/23 07:42	02/03/23 18:14	1
13C2 PFDA	98		70 - 130			02/02/23 07:42	02/03/23 18:14	1
13C3-GenX	102		70 - 130			02/02/23 07:42	02/03/23 18:14	1

Action Limit Summary

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

PWSID Number: HI0000331

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	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.59	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.59	525.2	Total/NA
Endrin	ND	*+	ug/L	2	0.098	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.098	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

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

Lab Sample ID: 380-36166-2

(331-203-TP400)

PWSID Number: HI0000331

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	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.59	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.59	525.2	Total/NA
Endrin	ND	*+	ug/L	2	0.098	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.098	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

Action Limit Summary

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

Job ID: 380-36166-1

Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-36166-3

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	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.59	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.59	525.2	Total/NA
Endrin	ND	*+	ug/L	2	0.099	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.099	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-36166-4

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	EPAMCL	RL	Method	Prep Type
				Limit			
Alachlor	ND		ug/L	2	0.049	525.2	Total/NA
Atrazine	ND		ug/L	3	0.049	525.2	Total/NA
Benzo[a]pyrene	ND		ug/L	0.2	0.020	525.2	Total/NA
Di(2-ethylhexyl)adipate	ND		ug/L	400	0.59	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	ND		ug/L	6	0.59	525.2	Total/NA
Endrin	ND	*+	ug/L	2	0.098	525.2	Total/NA
Heptachlor	ND		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	ND		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	ND		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	ND		ug/L	50	0.049	525.2	Total/NA
Lindane	ND		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	ND		ug/L	40	0.098	525.2	Total/NA
Simazine	ND		ug/L	4	0.049	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-36166-1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	TPP (70-130)	PRY (70-130)
380-36166-1	MOANALUA WELLS (331-223-T	104	90	92
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	106	101	98
380-36166-2 DU	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	104	100	96
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	108	98	92
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	106	95	92

Surrogate Legend

2NMX = 2-Nitro-m-xylene

TPP = Triphenylphosphate

PRY = Perylene-d12

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)	TPP (70-130)	PRY (70-130)
380-36127-A-1-A MS	Matrix Spike	104	96	100
LCS 380-31502/3-A	Lab Control Sample	103	98	97
LCSD 380-31502/4-A	Lab Control Sample Dup	104	99	97
MB 380-31502/1-A	Method Blank	105	97	88
MRL 380-31502/2-A	Lab Control Sample	105	101	94

Surrogate Legend

2NMX = 2-Nitro-m-xylene

TPP = Triphenylphosphate

PRY = Perylene-d12

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-36166-1	MOANALUA WELLS (331-223-T	103	111	103	109
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	114	109	100	103
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	109	116	104	103
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	107	115	107	109

Surrogate Legend

d5NEFOS = d5-NEtFOSAA

PFHxA = 13C2 PFHxA

PFDA = 13C2 PFDA

GenX = 13C3-GenX

Surrogate Summary

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

Job ID: 380-36166-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-36138-M-1-A LMS	Matrix Spike	102	112	102	109
380-36138-N-1-A LMSD	Matrix Spike Duplicate	102	109	99	101
380-36166-9	FB:MOANALUA WELLS (331-223-TP202)	106	109	102	108
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP400)	108	106	100	105
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	108	110	106	109
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP072)	101	108	98	102
LCS 380-31380/23-A	Lab Control Sample	104	110	105	107
LCSD 380-31380/24-A	Lab Control Sample Dup	100	120	102	121
MBL 380-31380/21-A	Method Blank	90	106	104	105
MRL 380-31380/22-A	Lab Control Sample	100	103	95	104

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
PFHxA = 13C2 PFHxA
PFDA = 13C2 PFDA
GenX = 13C3-GenX

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)				
		Acenaphthi (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
103960-B1	Method Blank	105	102	106	99	105
103960-BS1	Lab Control Sample	101	100	106	96	108
103960-BS2	Lab Control Sample Dup	99	101	107	95	107

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
(d10-Phenanthrene) = (d10-Phenanthrene)
CRY = (d12-Chrysene)
NPT = (d8-Naphthalene)
PRY = (d12-Perylene)

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphthi (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-36166-1	MOANALUA WELLS (331-223-1	97	98	104	87	95
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	102	101	108	94	100
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	100	98	108	94	100
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	98	101	74	91	75

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

Eurofins Eaton Analytical Pomona

Surrogate Summary

Client: City & County of Honolulu

Job ID: 380-36166-1

Project/Site: RED-HILL

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

NPT = (d8-Naphthalene)

PRY = (d12-Perylene)

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-36166-1	MOANALUA WELLS (331-223-T	84
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	81
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	82
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	84

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)
23B030-01M	Matrix Spike	108
23B030-01S	Matrix Spike Duplicate	113

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
23VG39B06B	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)
23VG39B06C	LCD	106
23VG39B06L	Lab Control Sample	104

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

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

Job ID: 380-36166-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
380-36166-5	TB:MOANALUA WELLS (331-223-T	82
380-36166-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	83
380-36166-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	83
380-36166-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	85

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
380-36166-1	MOANALUA WELLS (331-223-T	103	105
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	95	108
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	87	97
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	105	101

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB (60-130)	XACOSAI (60-130)
23DSB015WC	LCD	96	104
23DSB015WL	Lab Control Sample	102	104
23J5B015WC	LCD	104	110
23J5B015WL	Lab Control Sample	97	97
23J8B015WC	LCD	111	101
23J8B015WL	Lab Control Sample	105	96

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

Matrix: WATER

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BB	XACOSAI
23DSB015WB	Method Blank		

Surrogate Legend

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Surrogate Summary

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

Job ID: 380-36166-1

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Isotope Dilution Summary

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Matrix: Drinking Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-36166-1	MOANALUA WELLS (331-223-T	76	89	81	83	84	86	100	91
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	91	99	94	96	99	104	107	100
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	72	90	80	79	85	88	104	95
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	64	83	73	72	75	82	97	91
380-36166-4 LMS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	81	100	94	91	91	99	107	101
380-36166-4 LMSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	71	89	75	73	79	87	96	93

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-36166-1	MOANALUA WELLS (331-223-T	86	82	108	108	111	119	118	111
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	100	96	100	103	100	110	104	103
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	94	87	104	101	103	116	115	108
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	78	77	111	108	109	120	108	113
380-36166-4 LMS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	92	89	102	107	108	123	109	114
380-36166-4 LMSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	82	75	104	102	106	110	108	109

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
13C7PUA = 13C7 PFUnA
PFDaA = 13C2 PFDaA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
42FTS = 13C2-4:2-FTS
62FTS = 13C2-6:2-FTS
82FTS = 13C2-8:2-FTS

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-36166-9	FB:MOANALUA WELLS (331-223-T	106	112	109	107	107	112	111	105
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP400)	93	106	99	106	100	106	111	106

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Isotope Dilution Summary

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-36166-11	FB:HALAWA WELLS UNITS 1 &	93	102	98	99	101	103	106	106
380-36166-12	FB:AIEA GULCH WELLS PUMP	102	117	109	112	113	114	114	109
LCS 380-31432/3-A	Lab Control Sample	102	106	102	104	105	107	109	104
LCSD 380-31432/4-A	Lab Control Sample Dup	89	97	91	91	94	98	105	101
MBL 380-31432/1-A	Method Blank	93	101	104	100	102	103	99	103
MRL 380-31432/2-A	Lab Control Sample	98	107	101	105	104	105	103	101

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-36166-9	FB:MOANALUA WELLS (331-22	112	110	99	106	104	109	106	112
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP400)	99	97	104	107	111	111	109	105
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	98	96	104	106	109	115	109	106
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP072)	114	111	106	108	109	110	114	117
LCS 380-31432/3-A	Lab Control Sample	104	101	97	101	103	104	111	104
LCSD 380-31432/4-A	Lab Control Sample Dup	92	89	98	103	107	112	105	106
MBL 380-31432/1-A	Method Blank	108	103	101	100	100	108	112	110
MRL 380-31432/2-A	Lab Control Sample	112	110	102	104	102	116	108	112

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
13C7PUA = 13C7 PFUnA
PFDaA = 13C2 PFDaA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
42FTS = 13C2-4:2-FTS
62FTS = 13C2-6:2-FTS
82FTS = 13C2-8:2-FTS

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: MB 380-31502/1-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31502

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4'-DDD	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
2,4'-DDE	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
2,4'-DDT	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
2,4-Dinitrotoluene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
2,6-Dinitrotoluene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
4,4'-DDD	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
4,4'-DDE	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
4,4'-DDT	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Acenaphthene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Acenaphthylene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Acetochlor	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Alachlor	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
alpha-BHC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
alpha-Chlordane	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Anthracene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 12:46	1
Atrazine	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Benz(a)anthracene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Benzo[a]pyrene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 12:46	1
Benzo[b]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 12:46	1
Benzo[g,h,i]perylene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Benzo[k]fluoranthene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 12:46	1
beta-BHC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Bromacil	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Butachlor	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Butylbenzylphthalate	ND		0.50	ug/L		02/03/23 06:37	02/06/23 12:46	1
Caffeine	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Chlorobenzilate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Chloroneb	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Chlorothalonil (Draconil, Bravo)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Chlorpyrifos	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Chrysene	ND		0.020	ug/L		02/03/23 06:37	02/06/23 12:46	1
delta-BHC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Di(2-ethylhexyl)adipate	ND		0.60	ug/L		02/03/23 06:37	02/06/23 12:46	1
Bis(2-ethylhexyl) phthalate	ND		0.60	ug/L		02/03/23 06:37	02/06/23 12:46	1
Diazinon (Qualitative)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Dibenz(a,h)anthracene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Diclorvos (DDVP)	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Dieldrin	ND		0.20	ug/L		02/03/23 06:37	02/06/23 12:46	1
Diethylphthalate	ND		0.50	ug/L		02/03/23 06:37	02/06/23 12:46	1
Dimethoate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Dimethylphthalate	ND		0.50	ug/L		02/03/23 06:37	02/06/23 12:46	1
Di-n-butyl phthalate	ND		0.99	ug/L		02/03/23 06:37	02/06/23 12:46	1
Di-n-octyl phthalate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Endosulfan I (Alpha)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Endosulfan II (Beta)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Endosulfan sulfate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Endrin	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Endrin aldehyde	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: MB 380-31502/1-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31502

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
EPTC	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Fluoranthene	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Fluorene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
gamma-Chlordane	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Heptachlor	ND		0.040	ug/L		02/03/23 06:37	02/06/23 12:46	1
Heptachlor epoxide (isomer B)	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Hexachlorobenzene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Hexachlorocyclopentadiene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Indeno[1,2,3-cd]pyrene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Isophorone	ND		0.50	ug/L		02/03/23 06:37	02/06/23 12:46	1
Lindane	ND		0.040	ug/L		02/03/23 06:37	02/06/23 12:46	1
Malathion	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Methoxychlor	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Metolachlor	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Metribuzin	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Molinate	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Naphthalene	ND		0.30	ug/L		02/03/23 06:37	02/06/23 12:46	1
Parathion	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Pendimethalin (Penoxaline)	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Total Permethrin (mixed isomers)	ND		0.20	ug/L		02/03/23 06:37	02/06/23 12:46	1
Phenanthrene	ND		0.040	ug/L		02/03/23 06:37	02/06/23 12:46	1
Propachlor	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Pyrene	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Simazine	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Terbacil	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Terbutylazine	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1
Thiobencarb	ND		0.20	ug/L		02/03/23 06:37	02/06/23 12:46	1
trans-Nonachlor	ND		0.050	ug/L		02/03/23 06:37	02/06/23 12:46	1
Trifluralin	ND		0.099	ug/L		02/03/23 06:37	02/06/23 12:46	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.816	T J	ug/L		5.69	N/A	02/03/23 06:37	02/06/23 12:46	1
Unknown	0.900	T J	ug/L		7.29	N/A	02/03/23 06:37	02/06/23 12:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	105		70 - 130	02/03/23 06:37	02/06/23 12:46	1
Triphenylphosphate	97		70 - 130	02/03/23 06:37	02/06/23 12:46	1
Perylene-d12	88		70 - 130	02/03/23 06:37	02/06/23 12:46	1

Lab Sample ID: LCS 380-31502/3-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	1.98	1.89		ug/L		95	70 - 130
2,4'-DDE	1.98	1.91		ug/L		96	70 - 130
2,4'-DDT	1.98	2.09		ug/L		105	70 - 130
2,4-Dinitrotoluene	1.98	2.08		ug/L		105	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: LCS 380-31502/3-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.98	2.14		ug/L		108	70 - 130
4,4'-DDD	1.98	2.14		ug/L		108	70 - 130
4,4'-DDE	1.98	1.93		ug/L		98	70 - 130
4,4'-DDT	1.98	2.16		ug/L		109	70 - 130
Acenaphthene	1.98	2.06		ug/L		104	70 - 130
Acenaphthylene	1.98	2.05		ug/L		104	70 - 130
Acetochlor	1.98	2.33		ug/L		117	70 - 130
Alachlor	1.98	2.19		ug/L		110	70 - 130
alpha-BHC	1.98	2.14		ug/L		108	70 - 130
alpha-Chlordane	1.98	1.79		ug/L		90	70 - 130
Anthracene	1.98	1.95		ug/L		98	70 - 130
Atrazine	1.98	2.08		ug/L		105	70 - 130
Benz(a)anthracene	1.98	2.15		ug/L		108	70 - 130
Benzo[a]pyrene	1.98	2.17		ug/L		109	70 - 130
Benzo[b]fluoranthene	1.98	2.18		ug/L		110	70 - 130
Benzo[g,h,i]perylene	1.98	2.04		ug/L		103	70 - 130
Benzo[k]fluoranthene	1.98	2.17		ug/L		110	70 - 130
beta-BHC	1.98	2.19		ug/L		111	70 - 130
Bromacil	1.98	2.45		ug/L		124	70 - 130
Butachlor	1.98	2.26		ug/L		114	70 - 130
Butylbenzylphthalate	1.98	2.42		ug/L		122	70 - 130
Caffeine	1.98	1.66		ug/L		84	45 - 137
Chlorobenzilate	1.98	2.26		ug/L		114	70 - 130
Chloroneb	1.98	1.94		ug/L		98	70 - 130
Chlorothalonil (Draconil, Bravo)	1.98	1.91		ug/L		96	70 - 130
Chlorpyrifos	1.98	2.17		ug/L		109	70 - 130
Chrysene	1.98	2.04		ug/L		103	70 - 130
delta-BHC	1.98	2.11		ug/L		106	70 - 130
Di(2-ethylhexyl)adipate	1.98	2.44		ug/L		123	70 - 130
Bis(2-ethylhexyl) phthalate	1.98	2.18		ug/L		110	70 - 130
Diazinon (Qualitative)	1.98	1.97		ug/L		100	15 - 132
Dibenz(a,h)anthracene	1.98	2.21		ug/L		111	70 - 130
Diclorvos (DDVP)	1.98	2.63	++	ug/L		133	70 - 130
Dieldrin	1.98	2.14		ug/L		108	70 - 130
Diethylphthalate	1.98	2.24		ug/L		113	70 - 130
Dimethoate	1.98	1.69		ug/L		85	35 - 100
Dimethylphthalate	1.98	2.17		ug/L		110	70 - 130
Di-n-butyl phthalate	3.96	4.27		ug/L		108	70 - 130
Di-n-octyl phthalate	1.98	2.18		ug/L		110	70 - 130
Endosulfan I (Alpha)	1.98	1.94		ug/L		98	70 - 130
Endosulfan II (Beta)	1.98	2.21		ug/L		111	70 - 130
Endosulfan sulfate	1.98	2.15		ug/L		108	70 - 130
Endrin	1.98	2.55		ug/L		128	70 - 130
Endrin aldehyde	1.98	1.85		ug/L		93	70 - 130
EPTC	1.98	2.22		ug/L		112	70 - 130
Fluoranthene	1.98	2.10		ug/L		106	70 - 130
Fluorene	1.98	2.07		ug/L		104	70 - 130
gamma-Chlordane	1.98	1.76		ug/L		89	70 - 130
Heptachlor	1.98	2.24		ug/L		113	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: LCS 380-31502/3-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Heptachlor epoxide (isomer B)	1.98	1.89		ug/L		96	70 - 130
Hexachlorobenzene	1.98	1.80		ug/L		91	70 - 130
Hexachlorocyclopentadiene	1.98	2.06		ug/L		104	70 - 130
Indeno[1,2,3-cd]pyrene	1.98	2.20		ug/L		111	70 - 130
Isophorone	1.98	2.52		ug/L		127	70 - 130
Lindane	1.98	2.01		ug/L		101	70 - 130
Malathion	1.98	2.33		ug/L		118	70 - 130
Methoxychlor	1.98	2.39		ug/L		120	70 - 130
Metolachlor	1.98	2.38		ug/L		120	70 - 130
Metribuzin	1.98	2.32		ug/L		117	70 - 130
Molinate	1.98	2.23		ug/L		113	70 - 130
Naphthalene	1.98	2.10		ug/L		106	70 - 130
Parathion	1.98	2.53		ug/L		128	70 - 130
Pendimethalin (Penoxaline)	1.98	2.08		ug/L		105	70 - 130
Phenanthrene	1.98	1.97		ug/L		100	70 - 130
Propachlor	1.98	2.38		ug/L		120	70 - 130
Pyrene	1.98	2.13		ug/L		107	70 - 130
Simazine	1.98	2.25		ug/L		113	70 - 130
Terbacil	1.98	2.52		ug/L		127	70 - 130
Terbutylazine	1.98	2.13		ug/L		108	70 - 130
Thiobencarb	1.98	2.48		ug/L		125	70 - 130
trans-Nonachlor	1.98	1.73		ug/L		87	70 - 130
Trifluralin	1.98	1.88		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	103		70 - 130
Triphenylphosphate	98		70 - 130
Perylene-d12	97		70 - 130

Lab Sample ID: LCSD 380-31502/4-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4'-DDD	1.99	1.98		ug/L		100	70 - 130	5	20
2,4'-DDE	1.99	1.99		ug/L		100	70 - 130	4	20
2,4'-DDT	1.99	2.17		ug/L		109	70 - 130	4	20
2,4-Dinitrotoluene	1.99	2.11		ug/L		106	70 - 130	1	20
2,6-Dinitrotoluene	1.99	2.12		ug/L		106	70 - 130	1	20
4,4'-DDD	1.99	2.25		ug/L		113	70 - 130	5	20
4,4'-DDE	1.99	1.98		ug/L		99	70 - 130	2	20
4,4'-DDT	1.99	2.21		ug/L		111	70 - 130	2	20
Acenaphthene	1.99	2.09		ug/L		105	70 - 130	1	20
Acenaphthylene	1.99	2.09		ug/L		105	70 - 130	2	20
Acetochlor	1.99	2.37		ug/L		119	70 - 130	2	20
Alachlor	1.99	2.27		ug/L		114	70 - 130	4	20
alpha-BHC	1.99	2.13		ug/L		107	70 - 130	0	20
alpha-Chlordane	1.99	1.83		ug/L		92	70 - 130	3	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: LCSD 380-31502/4-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Anthracene	1.99	2.07		ug/L		104	70 - 130	6	20
Atrazine	1.99	2.09		ug/L		105	70 - 130	0	20
Benz(a)anthracene	1.99	2.24		ug/L		113	70 - 130	5	20
Benzo[a]pyrene	1.99	2.28		ug/L		115	70 - 130	5	20
Benzo[b]fluoranthene	1.99	2.23		ug/L		112	70 - 130	3	20
Benzo[g,h,i]perylene	1.99	2.09		ug/L		105	70 - 130	3	20
Benzo[k]fluoranthene	1.99	2.26		ug/L		114	70 - 130	4	20
beta-BHC	1.99	2.21		ug/L		111	70 - 130	1	20
Bromacil	1.99	2.55		ug/L		128	70 - 130	4	20
Butachlor	1.99	2.35		ug/L		118	70 - 130	4	20
Butylbenzylphthalate	1.99	2.52		ug/L		127	70 - 130	4	20
Caffeine	1.99	1.75		ug/L		88	45 - 137	5	20
Chlorobenzilate	1.99	2.41		ug/L		121	70 - 130	6	20
Chloroneb	1.99	1.94		ug/L		97	70 - 130	0	20
Chlorothalonil (Draconil, Bravo)	1.99	2.00		ug/L		101	70 - 130	5	20
Chlorpyrifos	1.99	2.26		ug/L		113	70 - 130	4	20
Chrysene	1.99	2.11		ug/L		106	70 - 130	3	20
delta-BHC	1.99	2.18		ug/L		109	70 - 130	3	20
Di(2-ethylhexyl)adipate	1.99	2.42		ug/L		121	70 - 130	1	20
Bis(2-ethylhexyl) phthalate	1.99	2.19		ug/L		110	70 - 130	0	20
Diazinon (Qualitative)	1.99	2.08		ug/L		104	15 - 132	5	20
Dibenz(a,h)anthracene	1.99	2.21		ug/L		111	70 - 130	0	20
Diclorvos (DDVP)	1.99	2.74	*+	ug/L		138	70 - 130	4	20
Dieldrin	1.99	2.27		ug/L		114	70 - 130	6	20
Diethylphthalate	1.99	2.25		ug/L		113	70 - 130	0	20
Dimethoate	1.99	1.64		ug/L		82	35 - 100	3	20
Dimethylphthalate	1.99	2.13		ug/L		107	70 - 130	2	20
Di-n-butyl phthalate	3.98	4.39		ug/L		110	70 - 130	3	20
Di-n-octyl phthalate	1.99	2.25		ug/L		113	70 - 130	3	20
Endosulfan I (Alpha)	1.99	1.99		ug/L		100	70 - 130	2	20
Endosulfan II (Beta)	1.99	2.31		ug/L		116	70 - 130	5	20
Endosulfan sulfate	1.99	2.31		ug/L		116	70 - 130	7	20
Endrin	1.99	2.62	*+	ug/L		131	70 - 130	3	20
Endrin aldehyde	1.99	1.90		ug/L		95	70 - 130	3	20
EPTC	1.99	2.23		ug/L		112	70 - 130	0	20
Fluoranthene	1.99	2.16		ug/L		109	70 - 130	3	20
Fluorene	1.99	2.09		ug/L		105	70 - 130	1	20
gamma-Chlordane	1.99	1.86		ug/L		93	70 - 130	6	20
Heptachlor	1.99	2.36		ug/L		119	70 - 130	5	20
Heptachlor epoxide (isomer B)	1.99	1.97		ug/L		99	70 - 130	4	20
Hexachlorobenzene	1.99	1.82		ug/L		91	70 - 130	1	20
Hexachlorocyclopentadiene	1.99	2.09		ug/L		105	70 - 130	2	20
Indeno[1,2,3-cd]pyrene	1.99	2.21		ug/L		111	70 - 130	0	20
Isophorone	1.99	2.63	*+	ug/L		132	70 - 130	4	20
Lindane	1.99	2.04		ug/L		103	70 - 130	2	20
Malathion	1.99	2.40		ug/L		121	70 - 130	3	20
Methoxychlor	1.99	2.51		ug/L		126	70 - 130	5	20
Metolachlor	1.99	2.49		ug/L		125	70 - 130	5	20
Metribuzin	1.99	2.41		ug/L		121	70 - 130	4	20

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: LCSD 380-31502/4-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Molinate	1.99	2.30		ug/L		115	70 - 130	3	20
Naphthalene	1.99	2.18		ug/L		109	70 - 130	4	20
Parathion	1.99	2.58		ug/L		130	70 - 130	2	20
Pendimethalin (Penoxaline)	1.99	2.14		ug/L		108	70 - 130	3	20
Phenanthrene	1.99	2.06		ug/L		103	70 - 130	4	20
Propachlor	1.99	2.40		ug/L		121	70 - 130	1	20
Pyrene	1.99	2.19		ug/L		110	70 - 130	3	20
Simazine	1.99	2.22		ug/L		112	70 - 130	1	20
Terbacil	1.99	2.58		ug/L		129	70 - 130	2	20
Terbutylazine	1.99	2.10		ug/L		105	70 - 130	2	20
Thiobencarb	1.99	2.55		ug/L		128	70 - 130	3	20
trans-Nonachlor	1.99	1.82		ug/L		92	70 - 130	5	20
Trifluralin	1.99	1.91		ug/L		96	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	99		70 - 130
Perylene-d12	97		70 - 130

Lab Sample ID: MRL 380-31502/2-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	0.0994	0.148		ug/L		149	50 - 150
2,4'-DDE	0.0994	0.100		ug/L		101	50 - 150
2,4'-DDT	0.0994	0.105		ug/L		106	50 - 150
2,4-Dinitrotoluene	0.0994	0.0923	J	ug/L		93	50 - 150
2,6-Dinitrotoluene	0.0994	0.0929	J	ug/L		94	50 - 150
4,4'-DDD	0.0994	0.110		ug/L		111	50 - 150
4,4'-DDE	0.0994	0.0992		ug/L		100	50 - 150
4,4'-DDT	0.0994	0.117		ug/L		118	50 - 150
Acenaphthene	0.0994	0.106		ug/L		106	50 - 150
Acenaphthylene	0.0994	0.0999		ug/L		101	50 - 150
Acetochlor	0.0497	0.0573	J	ug/L		115	50 - 150
Alachlor	0.0497	0.0576		ug/L		116	50 - 150
alpha-BHC	0.0994	0.102		ug/L		103	50 - 150
alpha-Chlordane	0.0248	ND		ug/L		93	50 - 150
Anthracene	0.0199	0.0215		ug/L		108	50 - 150
Atrazine	0.0497	0.0502		ug/L		101	50 - 150
Benz(a)anthracene	0.0497	0.0528		ug/L		106	50 - 150
Benzo[a]pyrene	0.0199	0.0182	J	ug/L		91	50 - 150
Benzo[b]fluoranthene	0.0199	0.0192	J	ug/L		97	50 - 150
Benzo[g,h,i]perylene	0.0497	0.0511		ug/L		103	50 - 150
Benzo[k]fluoranthene	0.0199	0.0203		ug/L		102	50 - 150
beta-BHC	0.0994	0.113		ug/L		114	50 - 150
Bromacil	0.0994	0.119		ug/L		120	50 - 150
Butachlor	0.0497	0.0560		ug/L		113	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: MRL 380-31502/2-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Butylbenzylphthalate	0.149	0.197	J	ug/L		132	50 - 150
Caffeine	0.0497	0.0399	J	ug/L		80	50 - 150
Chlorobenzilate	0.0994	0.113		ug/L		114	50 - 150
Chloroneb	0.0994	0.119		ug/L		120	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0994	0.188	^3+	ug/L		190	50 - 150
Chlorpyrifos	0.0497	0.0543		ug/L		109	50 - 150
Chrysene	0.0199	0.0199	J	ug/L		100	50 - 150
delta-BHC	0.0994	0.103		ug/L		104	50 - 150
Di(2-ethylhexyl)adipate	0.298	0.411	J	ug/L		138	50 - 150
Bis(2-ethylhexyl) phthalate	0.596	0.735		ug/L		123	50 - 150
Diazinon (Qualitative)	0.0994	0.112		ug/L		113	15 - 132
Dibenz(a,h)anthracene	0.0497	0.0485	J	ug/L		98	50 - 150
Diclorvos (DDVP)	0.0497	0.0590		ug/L		119	50 - 150
Dieldrin	0.0994	0.104	J	ug/L		105	50 - 150
Diethylphthalate	0.149	0.175	J	ug/L		118	50 - 150
Dimethoate	0.0994	0.0637	J	ug/L		64	35 - 100
Dimethylphthalate	0.298	0.306	J	ug/L		103	50 - 150
Di-n-butyl phthalate	0.298	0.339	J	ug/L		114	49 - 243
Di-n-octyl phthalate	0.0994	0.106		ug/L		107	50 - 150
Endosulfan I (Alpha)	0.0994	0.0848	J	ug/L		85	50 - 150
Endosulfan II (Beta)	0.0994	0.105		ug/L		106	50 - 150
Endosulfan sulfate	0.0994	0.107		ug/L		108	50 - 150
Endrin	0.0994	0.138		ug/L		139	50 - 150
Endrin aldehyde	0.0994	0.0874	J	ug/L		88	50 - 150
EPTC	0.0994	0.122		ug/L		122	50 - 150
Fluoranthene	0.0497	0.0528	J	ug/L		106	50 - 150
Fluorene	0.0497	0.0508		ug/L		102	50 - 150
gamma-Chlordane	0.0248	0.0212	J	ug/L		85	50 - 150
Heptachlor	0.0397	0.0519		ug/L		130	50 - 150
Heptachlor epoxide (isomer B)	0.0497	0.0588		ug/L		118	50 - 150
Hexachlorobenzene	0.0497	0.0483	J	ug/L		97	50 - 150
Hexachlorocyclopentadiene	0.0497	0.0506		ug/L		102	50 - 150
Indeno[1,2,3-cd]pyrene	0.0497	0.0496	J	ug/L		100	50 - 150
Isophorone	0.0994	0.132	J	ug/L		133	50 - 150
Lindane	0.0397	0.0445		ug/L		112	50 - 150
Malathion	0.0994	0.110		ug/L		111	50 - 150
Methoxychlor	0.0994	0.110		ug/L		110	50 - 150
Metolachlor	0.0497	0.0570		ug/L		115	50 - 150
Metribuzin	0.0497	0.0498	J	ug/L		100	50 - 150
Molinate	0.0994	0.112		ug/L		113	50 - 150
Naphthalene	0.0994	0.117	J	ug/L		117	50 - 150
Parathion	0.0994	0.0982	J	ug/L		99	50 - 150
Pendimethalin (Penoxaline)	0.0994	0.0801	J	ug/L		81	50 - 150
Phenanthrene	0.0199	0.0237	J	ug/L		119	50 - 150
Propachlor	0.0497	0.0558		ug/L		112	50 - 150
Pyrene	0.0497	0.0510		ug/L		103	50 - 150
Simazine	0.0497	0.0597		ug/L		120	50 - 150
Terbacil	0.0994	0.142		ug/L		143	50 - 150
Terbutylazine	0.0994	0.105		ug/L		106	50 - 150

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: MRL 380-31502/2-A

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Thiobencarb	0.0994	0.131	J	ug/L		132	50 - 150
trans-Nonachlor	0.0248	ND		ug/L		93	50 - 150
Trifluralin	0.0994	0.0860	J	ug/L		87	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	105		70 - 130
Triphenylphosphate	101		70 - 130
Perylene-d12	94		70 - 130

Lab Sample ID: 380-36127-A-1-A MS

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4'-DDD	ND		1.99	1.87		ug/L		94	70 - 130
2,4'-DDE	ND		1.99	1.89		ug/L		95	70 - 130
2,4'-DDT	ND		1.99	2.08		ug/L		104	70 - 130
2,4-Dinitrotoluene	ND		1.99	2.25		ug/L		113	70 - 130
2,6-Dinitrotoluene	ND		1.99	2.23		ug/L		112	70 - 130
4,4'-DDD	ND		1.99	2.13		ug/L		107	70 - 130
4,4'-DDE	ND		1.99	1.85		ug/L		93	70 - 130
4,4'-DDT	ND		1.99	2.18		ug/L		109	70 - 130
Acenaphthene	ND		1.99	2.11		ug/L		106	70 - 130
Acenaphthylene	ND		1.99	2.08		ug/L		104	70 - 130
Acetochlor	ND		1.99	2.35		ug/L		118	70 - 130
Alachlor	ND		1.99	2.21		ug/L		111	70 - 130
alpha-BHC	ND		1.99	2.19		ug/L		110	70 - 130
alpha-Chlordane	ND		1.99	1.74		ug/L		87	70 - 130
Anthracene	ND	F1	1.99	0.578	F1	ug/L		29	70 - 130
Atrazine	ND		1.99	2.11		ug/L		106	70 - 130
Benz(a)anthracene	ND		1.99	1.77		ug/L		89	70 - 130
Benzo[a]pyrene	ND		1.99	1.41		ug/L		71	70 - 130
Benzo[b]fluoranthene	ND		1.99	2.27		ug/L		114	70 - 130
Benzo[g,h,i]perylene	ND		1.99	2.18		ug/L		109	70 - 130
Benzo[k]fluoranthene	ND		1.99	2.37		ug/L		119	70 - 130
beta-BHC	ND		1.99	2.19		ug/L		110	70 - 130
Bromacil	ND		1.99	2.54		ug/L		128	70 - 130
Butachlor	ND		1.99	2.38		ug/L		120	70 - 130
Butylbenzylphthalate	ND		1.99	2.43		ug/L		122	70 - 130
Caffeine	ND		1.99	2.05		ug/L		103	46 - 144
Chlorobenzilate	ND		1.99	2.34		ug/L		117	70 - 130
Chloroneb	ND		1.99	2.01		ug/L		101	70 - 130
Chlorothalonil (Draconil, Bravo)	ND	^3+	1.99	1.92		ug/L		96	70 - 130
Chlorpyrifos	ND		1.99	2.16		ug/L		108	70 - 130
Chrysene	ND		1.99	2.09		ug/L		105	70 - 130
delta-BHC	ND		1.99	2.16		ug/L		109	70 - 130
Di(2-ethylhexyl)adipate	ND		1.99	2.43		ug/L		122	70 - 130
Bis(2-ethylhexyl) phthalate	ND		1.99	2.41		ug/L		107	70 - 130

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 380-36127-A-1-A MS

Matrix: Water

Analysis Batch: 31772

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 31502

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Diazinon (Qualitative)	ND		1.99	2.17		ug/L		109	15 - 132
Dibenz(a,h)anthracene	ND		1.99	2.30		ug/L		116	70 - 130
Diclorvos (DDVP)	ND	*+ F1	1.99	2.75	F1	ug/L		138	70 - 130
Dieldrin	ND		1.99	2.04		ug/L		102	70 - 130
Diethylphthalate	ND		1.99	2.27		ug/L		114	70 - 130
Dimethoate	ND		1.99	2.07		ug/L		104	34 - 111
Dimethylphthalate	ND		1.99	2.22		ug/L		112	70 - 130
Di-n-butyl phthalate	ND		3.98	4.55		ug/L		109	70 - 130
Di-n-octyl phthalate	ND		1.99	2.30		ug/L		113	70 - 130
Endosulfan I (Alpha)	ND		1.99	1.87		ug/L		94	70 - 130
Endosulfan II (Beta)	ND		1.99	2.11		ug/L		106	70 - 130
Endosulfan sulfate	ND		1.99	2.21		ug/L		111	70 - 130
Endrin	ND	*+ F1	1.99	2.72	F1	ug/L		137	70 - 130
Endrin aldehyde	ND		1.99	1.77		ug/L		89	70 - 130
EPTC	ND		1.99	2.38		ug/L		119	70 - 130
Fluoranthene	ND		1.99	2.08		ug/L		105	70 - 130
Fluorene	ND		1.99	2.10		ug/L		105	70 - 130
gamma-Chlordane	ND		1.99	1.76		ug/L		89	70 - 130
Heptachlor	ND		1.99	2.32		ug/L		116	70 - 130
Heptachlor epoxide (isomer B)	ND		1.99	1.81		ug/L		91	70 - 130
Hexachlorobenzene	ND		1.99	1.87		ug/L		94	70 - 130
Hexachlorocyclopentadiene	ND		1.99	2.14		ug/L		108	70 - 130
Indeno[1,2,3-cd]pyrene	ND		1.99	2.32		ug/L		117	70 - 130
Isophorone	ND	*+ F1	1.99	2.66	F1	ug/L		134	70 - 130
Lindane	ND		1.99	2.07		ug/L		104	70 - 130
Malathion	ND		1.99	2.35		ug/L		118	70 - 130
Methoxychlor	ND		1.99	2.52		ug/L		127	70 - 130
Metolachlor	ND		1.99	2.44		ug/L		122	70 - 130
Metribuzin	ND		1.99	2.49		ug/L		125	70 - 130
Molinate	ND		1.99	2.40		ug/L		120	70 - 130
Naphthalene	ND		1.99	2.21		ug/L		111	70 - 130
Parathion	ND		1.99	2.51		ug/L		126	70 - 130
Pendimethalin (Penoxaline)	ND		1.99	2.09		ug/L		105	70 - 130
Phenanthrene	ND		1.99	2.08		ug/L		104	70 - 130
Propachlor	ND		1.99	2.45		ug/L		123	70 - 130
Pyrene	ND		1.99	2.04		ug/L		102	70 - 130
Simazine	ND		1.99	2.29		ug/L		115	70 - 130
Terbacil	ND	F1	1.99	2.63	F1	ug/L		132	70 - 130
Terbutylazine	ND		1.99	2.25		ug/L		113	70 - 130
Thiobencarb	ND		1.99	2.59		ug/L		130	70 - 130
trans-Nonachlor	ND		1.99	1.66		ug/L		83	70 - 130
Trifluralin	ND		1.99	1.97		ug/L		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	96		70 - 130
Perylene-d12	100		70 - 130

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 380-36166-2 DU

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 31772

Prep Batch: 31502

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
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
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
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	^3+	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
Bis(2-ethylhexyl) phthalate	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

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 380-36166-2 DU

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 31772

Prep Batch: 31502

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
EPTC	ND		ND		ug/L		NC	20
Fluoranthene	ND		ND		ug/L		NC	20
Fluorene	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		ND		ug/L		NC	20
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
Lindane	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
Total Permethrin (mixed isomers)	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	ND		ND		ug/L		NC	20
Thiobencarb	ND		ND		ug/L		NC	20
trans-Nonachlor	ND		ND		ug/L		NC	20
Trifluralin	ND		ND		ug/L		NC	20

Surrogate	%Recovery	DU Qualifier	Limits
2-Nitro-m-xylene	104		70 - 130
Triphenylphosphate	100		70 - 130
Perylene-d12	96		70 - 130

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water

Lab Sample ID: MBL 380-31432/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 31593

Prep Batch: 31432

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MBL 380-31432/1-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31432

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluorobutanoic acid (PFBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	ng/L		02/02/23 12:35	02/04/23 00:55	1
Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C6 PFDA	101		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C5 PFHxA	104		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C4 PFHpA	100		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C8 PFOA	102		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C9 PFNA	103		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C7 PFUnA	99		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C2 PFDoA	103		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C4 PFBA	108		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C5 PFPeA	103		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C3 PFBS	101		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C3 PFHxS	100		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C8 PFOS	100		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C2-4:2-FTS	108		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C2-6:2-FTS	112		50 - 200			02/02/23 12:35	02/04/23 00:55	1
13C2-8:2-FTS	110		50 - 200			02/02/23 12:35	02/04/23 00:55	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCS 380-31432/3-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	114		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	118		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	116		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	115		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	119		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	120	119		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	120	120		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	116		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	120	118		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	120	119		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	119		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	120	119		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	118		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	120	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	123		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	121		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	117		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	119		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	120		ng/L		100	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	116		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	120		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	120	125		ng/L		104	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	118		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	114		ng/L		95	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	107		50 - 200

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QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCS 380-31432/3-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31432

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C7 PFUnA	109		50 - 200
13C2 PFDoA	104		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	101		50 - 200
13C3 PFBS	97		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: LCSD 380-31432/4-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31432

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	110		ng/L		92	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	120	111		ng/L		92	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	115		ng/L		96	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	117		ng/L		97	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	120	123		ng/L		102	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	120	120		ng/L		100	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	120	119		ng/L		99	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	120	118		ng/L		98	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	120	115		ng/L		96	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	120	117		ng/L		98	70 - 130	0	30
Perfluorononanoic acid (PFNA)	120	118		ng/L		98	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	120	118		ng/L		98	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	120	117		ng/L		98	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	120	121		ng/L		100	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	120	120		ng/L		100	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	122		ng/L		102	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	117		ng/L		98	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	119		ng/L		99	70 - 130	2	30
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	120	113		ng/L		94	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	118		ng/L		98	70 - 130	2	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: LCSD 380-31432/4-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 31432

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	125		ng/L		104	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)	120	122		ng/L		102	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	120	114		ng/L		95	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	120	116		ng/L		96	70 - 130	2	30
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
13C3 HFPO-DA	89		50 - 200						
13C6 PFDA	97		50 - 200						
13C5 PFHxA	91		50 - 200						
13C4 PFHpA	91		50 - 200						
13C8 PFOA	94		50 - 200						
13C9 PFNA	98		50 - 200						
13C7 PFUnA	105		50 - 200						
13C2 PFDoA	101		50 - 200						
13C4 PFBA	92		50 - 200						
13C5 PFPeA	89		50 - 200						
13C3 PFBS	98		50 - 200						
13C3 PFHxS	103		50 - 200						
13C8 PFOS	107		50 - 200						
13C2-4:2-FTS	112		50 - 200						
13C2-6:2-FTS	105		50 - 200						
13C2-8:2-FTS	106		50 - 200						

Lab Sample ID: MRL 380-31432/2-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31432

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	2.00	2.14		ng/L		107	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	2.00	2.18		ng/L		109	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.27		ng/L		113	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.33		ng/L		116	50 - 150		
Perfluorobutanesulfonic acid (PFBS)	2.00	2.33		ng/L		116	50 - 150		
Perfluorodecanoic acid (PFDA)	2.00	2.38		ng/L		119	50 - 150		
Perfluorododecanoic acid (PFDoA)	2.00	2.24		ng/L		112	50 - 150		
Perfluoroheptanoic acid (PFHpA)	2.00	2.37		ng/L		118	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.17		ng/L		108	50 - 150		
Perfluorohexanoic acid (PFHxA)	2.00	2.47		ng/L		123	50 - 150		

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QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: MRL 380-31432/2-A

Matrix: Water

Analysis Batch: 31593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31432

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	2.00	2.38		ng/L		119	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.29		ng/L		114	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.42		ng/L		121	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.53		ng/L		126	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.45		ng/L		122	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.29		ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.39		ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.48		ng/L		124	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.27		ng/L		113	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.22		ng/L		111	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.32		ng/L		116	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.40		ng/L		120	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.57		ng/L		128	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.28		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.26		ng/L		113	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	98		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	101		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	104		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	110		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	116		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	112		50 - 200

QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 380-36166-4 LMS

Matrix: Drinking Water

Analysis Batch: 31593

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Prep Type: Total/NA

Prep Batch: 31432

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.00	2.00		ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		2.00	2.14		ng/L		107	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.00	2.03		ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.00	2.45		ng/L		122	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		2.00	2.59		ng/L		129	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.00	2.28		ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.00	2.18		ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.00	2.39		ng/L		119	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		2.00	2.38		ng/L		119	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.00	2.46		ng/L		123	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.00	2.20		ng/L		110	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		2.00	2.22		ng/L		111	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.00	2.53		ng/L		126	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.00	2.50		ng/L		125	50 - 150
Perfluorobutanoic acid (PFBA)	ND		2.00	2.80		ng/L		140	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.00	2.25		ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.00	2.36		ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.00	2.55		ng/L		127	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.00	2.00		ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.00	2.37		ng/L		118	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.00	2.29		ng/L		114	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.00	2.38		ng/L		119	50 - 150
Perfluoropentanoic acid (PFPeA)	ND		2.00	2.84		ng/L		123	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.00	2.28		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	ND		2.00	2.15		ng/L		107	50 - 150

Isotope Dilution	LMS %Recovery	LMS Qualifier	Limits
13C3 HFPO-DA	81		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	91		50 - 200
13C8 PFOA	91		50 - 200
13C9 PFNA	99		50 - 200

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QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 380-36166-4 LMS

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 31593

Prep Batch: 31432

Isotope Dilution	LMS %Recovery	LMS Qualifier	Limits
13C7 PFUnA	107		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	92		50 - 200
13C5 PFPeA	89		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	109		50 - 200
13C2-8:2-FTS	114		50 - 200

Lab Sample ID: 380-36166-4 LMSD

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 31593

Prep Batch: 31432

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		2.01	1.95	J	ng/L		97	50 - 150	3	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		2.01	2.07		ng/L		103	50 - 150	4	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.01	2.04		ng/L		102	50 - 150	0	50
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.20		ng/L		109	50 - 150	11	50
Perfluorobutanesulfonic acid (PFBS)	ND		2.01	2.29		ng/L		114	50 - 150	12	50
Perfluorodecanoic acid (PFDA)	ND		2.01	2.30		ng/L		114	50 - 150	1	50
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.15		ng/L		107	50 - 150	2	50
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.44		ng/L		122	50 - 150	2	50
Perfluorohexanesulfonic acid (PFHxS)	ND		2.01	2.50		ng/L		125	50 - 150	5	50
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.53		ng/L		126	50 - 150	3	50
Perfluorononanoic acid (PFNA)	ND		2.01	2.26		ng/L		112	50 - 150	3	50
Perfluorooctanesulfonic acid (PFOS)	ND		2.01	2.26		ng/L		113	50 - 150	2	50
Perfluorooctanoic acid (PFOA)	ND		2.01	2.51		ng/L		125	50 - 150	1	50
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.46		ng/L		122	50 - 150	2	50
Perfluorobutanoic acid (PFBA)	ND		2.01	2.43		ng/L		121	50 - 150	14	50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	ND		2.01	2.48		ng/L		123	50 - 150	10	50
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	ND		2.01	2.33		ng/L		116	50 - 150	1	50
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	ND		2.01	2.15		ng/L		107	50 - 150	17	50
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		2.01	2.11		ng/L		105	50 - 150	5	50
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	ND		2.01	2.16		ng/L		107	50 - 150	10	50

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QC Sample Results

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

Job ID: 380-36166-1

Method: 533 - Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water (Continued)

Lab Sample ID: 380-36166-4 LMSD

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 31593

Prep Batch: 31432

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND		2.01	2.12		ng/L		105	50 - 150	8	50
Perfluoro-4-methoxybutanoic acid (PFMBA)	ND		2.01	2.27		ng/L		113	50 - 150	5	50
Perfluoropentanoic acid (PFPeA)	ND		2.01	2.75		ng/L		118	50 - 150	3	50
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.01	2.18		ng/L		108	50 - 150	5	50
Perfluoropentanesulfonic acid (PFPeS)	ND		2.01	2.17		ng/L		108	50 - 150	1	50
LMSD LMSD											
Isotope Dilution	%Recovery	Qualifier	Limits								
13C3 HFPO-DA	71		50 - 200								
13C6 PFDA	89		50 - 200								
13C5 PFHxA	75		50 - 200								
13C4 PFHpA	73		50 - 200								
13C8 PFOA	79		50 - 200								
13C9 PFNA	87		50 - 200								
13C7 PFUnA	96		50 - 200								
13C2 PFDoA	93		50 - 200								
13C4 PFBA	82		50 - 200								
13C5 PFPeA	75		50 - 200								
13C3 PFBS	104		50 - 200								
13C3 PFHxS	102		50 - 200								
13C8 PFOS	106		50 - 200								
13C2-4:2-FTS	110		50 - 200								
13C2-6:2-FTS	108		50 - 200								
13C2-8:2-FTS	109		50 - 200								

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 380-31380/21-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 31570

Prep Batch: 31380

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorooctanoic acid (PFOA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorodecanoic acid (PFDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorononanoic acid (PFNA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MBL 380-31380/21-A

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 31380

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	ng/L		02/02/23 07:42	02/03/23 15:48	1
Surrogate	%Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NeFOSAA	90		70 - 130			02/02/23 07:42	02/03/23 15:48	1
13C2 PFHxA	106		70 - 130			02/02/23 07:42	02/03/23 15:48	1
13C2 PFDA	104		70 - 130			02/02/23 07:42	02/03/23 15:48	1
13C3-GenX	105		70 - 130			02/02/23 07:42	02/03/23 15:48	1

Lab Sample ID: LCS 380-31380/23-A

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.2	51.4		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	46.5	47.9		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	48.3		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	52.9		ng/L		105	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NeFOSAA)	50.2	53.2		ng/L		106	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	51.0		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	47.8		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	53.2		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	49.1		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	45.8	48.8		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	44.4	47.5		ng/L		107	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	52.3		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	50.2	51.1		ng/L		102	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.2	46.6		ng/L		93	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	48.0		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	46.9	48.3		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	47.4	45.5		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	47.4	48.3		ng/L		102	70 - 130

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QC Sample Results

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

Job ID: 380-36166-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Surrogate	LCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	110		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	107		70 - 130

Lab Sample ID: LCSD 380-31380/24-A
Matrix: Water
Analysis Batch: 31570

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31380

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide	50.0	53.7		ng/L		107	70 - 130	4	30
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	46.3	47.5		ng/L		103	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	50.0	48.8		ng/L		98	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	48.4		ng/L		97	70 - 130	9	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	50.7		ng/L		101	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	50.0	54.7		ng/L		109	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	50.0	47.9		ng/L		96	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	50.0	52.7		ng/L		105	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	50.0	49.7		ng/L		99	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	45.6	48.3		ng/L		106	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	44.3	46.5		ng/L		105	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	50.0	50.4		ng/L		101	70 - 130	4	30
Perfluorononanoic acid (PFNA)	50.0	50.5		ng/L		101	70 - 130	1	30
Perfluorotetradecanoic acid (PFTA)	50.0	46.1		ng/L		92	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	50.0	48.6		ng/L		97	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	46.8	47.7		ng/L		102	70 - 130	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	47.3	45.1		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	47.3	47.2		ng/L		100	70 - 130	2	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	100		70 - 130
13C2 PFHxA	120		70 - 130
13C2 PFDA	102		70 - 130
13C3-GenX	121		70 - 130

QC Sample Results

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

Job ID: 380-36166-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MRL 380-31380/22-A

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 31380

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.11		ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.86	2.00		ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.01		ng/L		100	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.98	J	ng/L		99	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.01		ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.04		ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.20		ng/L		110	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.02		ng/L		101	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.83	2.11		ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.77	1.99	J	ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.38		ng/L		119	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.12		ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	1.93	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.87	1.99	J	ng/L		106	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.89	1.80	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.05		ng/L		108	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	100		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	95		70 - 130
13C3-GenX	104		70 - 130

Lab Sample ID: 380-36138-M-1-A LMS

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 31380

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.01	2.22		ng/L		111	50 - 150
Perfluorooctanesulfonic acid (PFOS)	ND		1.86	2.01		ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	ND		2.01	1.99	J	ng/L		99	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.01	1.93	J	ng/L		96	50 - 150

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QC Sample Results

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

Job ID: 380-36166-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-36138-M-1-A LMS

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 31380

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.01	2.12		ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	ND		2.01	2.32		ng/L		115	50 - 150
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.00		ng/L		99	50 - 150
Perfluorooctanoic acid (PFOA)	ND		2.01	2.30		ng/L		115	50 - 150
Perfluorodecanoic acid (PFDA)	ND		2.01	2.14		ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	2.08		ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	ND		1.78	1.95	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	ND		2.01	2.23		ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	ND		2.01	2.26		ng/L		113	50 - 150
Perfluorotetradecanoic acid (PFTA)	ND		2.01	2.04		ng/L		102	50 - 150
Perfluorotridecanoic acid (PFTrDA)	ND		2.01	2.13		ng/L		106	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		1.88	1.91	J	ng/L		102	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.90	1.83	J	ng/L		96	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.90	2.12		ng/L		112	50 - 150
Surrogate	LMS %Recovery	LMS Qualifier	Limits						
d5-NEtFOSAA	102		70 - 130						
13C2 PFHxA	112		70 - 130						
13C2 PFDA	102		70 - 130						
13C3-GenX	109		70 - 130						

Lab Sample ID: 380-36138-N-1-A LMSD

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 31380

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	ND		2.00	2.08		ng/L		104	50 - 150	6	50
Perfluorooctanesulfonic acid (PFOS)	ND		1.86	2.00		ng/L		108	50 - 150	1	50
Perfluoroundecanoic acid (PFUnA)	ND		2.00	2.17		ng/L		108	50 - 150	9	50
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		2.00	1.87	J	ng/L		93	50 - 150	3	50
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		2.00	2.12		ng/L		106	50 - 150	0	50
Perfluorohexanoic acid (PFHxA)	ND		2.00	2.18		ng/L		109	50 - 150	6	50
Perfluorododecanoic acid (PFDoA)	ND		2.00	2.12		ng/L		106	50 - 150	6	50
Perfluorooctanoic acid (PFOA)	ND		2.00	2.30		ng/L		115	50 - 150	0	50
Perfluorodecanoic acid (PFDA)	ND		2.00	2.17		ng/L		108	50 - 150	2	50

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QC Sample Results

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

Job ID: 380-36166-1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-36138-N-1-A LMSD

Matrix: Water

Analysis Batch: 31570

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 31380

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	1.92	J	ng/L		105	50 - 150	8	50
Perfluorobutanesulfonic acid (PFBS)	ND		1.77	1.94	J	ng/L		109	50 - 150	0	50
Perfluoroheptanoic acid (PFHpA)	ND		2.00	2.21		ng/L		110	50 - 150	1	50
Perfluorononanoic acid (PFNA)	ND		2.00	2.24		ng/L		112	50 - 150	1	50
Perfluorotetradecanoic acid (PFTA)	ND		2.00	2.02		ng/L		101	50 - 150	1	50
Perfluorotridecanoic acid (PFTDA)	ND		2.00	2.07		ng/L		103	50 - 150	3	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	ND		1.87	1.92	J	ng/L		103	50 - 150	0	50
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1.89	1.88	J	ng/L		99	50 - 150	3	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.89	1.97	J	ng/L		104	50 - 150	7	50
Surrogate	LMSD %Recovery	LMSD Qualifier	Limits								
d5-NEtFOSAA	102		70 - 130								
13C2 PFHxA	109		70 - 130								
13C2 PFDA	99		70 - 130								
13C3-GenX	101		70 - 130								

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

Lab Sample ID: 103960-B1

Matrix: BlankMatrix

Analysis Batch: O-40118

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: O-40118_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Acenaphthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Acenaphthylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Biphenyl	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Chrysene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Dibenzothiophene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 103960-B1

Matrix: BlankMatrix

Analysis Batch: O-40118

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: O-40118_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disalicylideneopropanediamine	ND		0.1	0.05	µg/L		01/27/23 00:00	02/18/23 18:12	1
Fluoranthene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Fluorene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Naphthalene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Perylene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Phenanthrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1
Pyrene	ND		0.005	0.001	µg/L		01/27/23 00:00	02/18/23 18:12	1

Surrogate	Blank %Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	105		27 - 133	01/27/23 00:00	02/18/23 18:12	1
(d10-Phenanthrene)	102		43 - 129	01/27/23 00:00	02/18/23 18:12	1
(d12-Chrysene)	106		52 - 144	01/27/23 00:00	02/18/23 18:12	1
(d12-Perylene)	105		36 - 161	01/27/23 00:00	02/18/23 18:12	1
(d8-Naphthalene)	99		25 - 125	01/27/23 00:00	02/18/23 18:12	1

Lab Sample ID: 103960-BS1

Matrix: BlankMatrix

Analysis Batch: O-40118

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: O-40118_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.487		µg/L		97	31 - 128
1-Methylphenanthrene	0.5	0.555		µg/L		111	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.48		µg/L		96	55 - 122
2,6-Dimethylnaphthalene	0.5	0.529		µg/L		106	48 - 120
2-Methylnaphthalene	0.5	0.484		µg/L		97	47 - 130
Acenaphthene	0.5	0.483		µg/L		97	53 - 131
Acenaphthylene	0.5	0.492		µg/L		98	43 - 140
Anthracene	0.5	0.504		µg/L		101	58 - 135
Benz[a]anthracene	0.5	0.541		µg/L		108	55 - 145
Benzo[a]pyrene	0.5	0.538		µg/L		108	51 - 143
Benzo[b]fluoranthene	0.5	0.58		µg/L		116	46 - 165
Benzo[e]pyrene	0.5	0.565		µg/L		113	42 - 152
Benzo[g,h,i]perylene	1	0.933		µg/L		93	63 - 133
Benzo[k]fluoranthene	0.5	0.578		µg/L		116	56 - 145
Biphenyl	0.5	0.504		µg/L		101	56 - 119
Chrysene	0.5	0.529		µg/L		106	56 - 141
Dibenz[a,h]anthracene	1	0.941		µg/L		94	55 - 150
Dibenzo[a,l]pyrene	0.5	0.732		µg/L		146	50 - 150
Dibenzothiophene	0.5	0.491		µg/L		98	46 - 126
Disalicylideneopropanediamine	50	47.7		µg/L		95	50 - 150
Fluoranthene	0.5	0.545		µg/L		109	60 - 146
Fluorene	0.5	0.478		µg/L		96	58 - 131
Indeno[1,2,3-cd]pyrene	1	0.88		µg/L		88	50 - 151
Naphthalene	0.5	0.466		µg/L		93	41 - 126
Perylene	0.5	0.5		µg/L		100	48 - 141
Phenanthrene	0.5	0.497		µg/L		99	67 - 127
Pyrene	0.5	0.542		µg/L		108	54 - 156

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QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 103960-BS1

Matrix: BlankMatrix

Analysis Batch: O-40118

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: O-40118_P

Surrogate	LCS %Recovery	LCS Qualifier	Limits
(d10-Acenaphthene)	101		27 - 133
(d10-Phenanthrene)	100		43 - 129
(d12-Chrysene)	106		52 - 144
(d12-Perylene)	108		36 - 161
(d8-Naphthalene)	96		25 - 125

Lab Sample ID: 103960-BS2

Matrix: BlankMatrix

Analysis Batch: O-40118

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: O-40118_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	0.5	0.486		µg/L		97	31 - 128	0	30
1-Methylphenanthrene	0.5	0.54		µg/L		108	66 - 127	3	30
2,3,5-Trimethylnaphthalene	0.5	0.472		µg/L		94	55 - 122	2	30
2,6-Dimethylnaphthalene	0.5	0.527		µg/L		105	48 - 120	1	30
2-Methylnaphthalene	0.5	0.494		µg/L		99	47 - 130	2	30
Acenaphthene	0.5	0.487		µg/L		97	53 - 131	0	30
Acenaphthylene	0.5	0.476		µg/L		95	43 - 140	3	30
Anthracene	0.5	0.501		µg/L		100	58 - 135	1	30
Benz[a]anthracene	0.5	0.545		µg/L		109	55 - 145	1	30
Benzo[a]pyrene	0.5	0.539		µg/L		108	51 - 143	0	30
Benzo[b]fluoranthene	0.5	0.563		µg/L		113	46 - 165	3	30
Benzo[e]pyrene	0.5	0.565		µg/L		113	42 - 152	0	30
Benzo[g,h,i]perylene	1	0.928		µg/L		93	63 - 133	0	30
Benzo[k]fluoranthene	0.5	0.531		µg/L		106	56 - 145	9	30
Biphenyl	0.5	0.497		µg/L		99	56 - 119	2	30
Chrysene	0.5	0.508		µg/L		102	56 - 141	4	30
Dibenz[a,h]anthracene	1	0.873		µg/L		87	55 - 150	8	30
Dibenzo[a,l]pyrene	0.5	0.749		µg/L		150	50 - 150	3	30
Dibenzothiophene	0.5	0.484		µg/L		97	46 - 126	1	30
Disalicylidenepropanediamine	50	50		µg/L		100	50 - 150	5	30
Fluoranthene	0.5	0.533		µg/L		107	60 - 146	2	30
Fluorene	0.5	0.481		µg/L		96	58 - 131	0	30
Indeno[1,2,3-cd]pyrene	1	0.895		µg/L		89	50 - 151	2	30
Naphthalene	0.5	0.459		µg/L		92	41 - 126	1	30
Perylene	0.5	0.555		µg/L		111	48 - 141	10	30
Phenanthrene	0.5	0.482		µg/L		96	67 - 127	3	30
Pyrene	0.5	0.543		µg/L		109	54 - 156	1	30

Surrogate	LCS DUP %Recovery	LCS DUP Qualifier	Limits
(d10-Acenaphthene)	99		27 - 133
(d10-Phenanthrene)	101		43 - 129
(d12-Chrysene)	107		52 - 144
(d12-Perylene)	107		36 - 161
(d8-Naphthalene)	95		25 - 125

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 23VG39B06B
Matrix: WATER
Analysis Batch: 23VG39B06

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.020		mg/L			02/03/23 12:40	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE								02/03/23 12:40	1

Lab Sample ID: 23VG39B06L
Matrix: WATER
Analysis Batch: 23VG39B06

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	0.500	0.422		mg/L		84	60 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
BROMOFLUOROBENZENE	104		70 - 130				

Lab Sample ID: 23B030-01M
Matrix: WATER
Analysis Batch: 23VG39B06

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
GASOLINE	ND		0.500	0.478		mg/L		96	50 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
BROMOFLUOROBENZENE	108		60 - 140						

Lab Sample ID: 23B030-01S
Matrix: WATER
Analysis Batch: 23VG39B06

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GASOLINE	ND		0.500	0.515		mg/L		103	50 - 130	7	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
BROMOFLUOROBENZENE	113		60 - 140								

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

Lab Sample ID: 23DSB015WB
Matrix: WATER
Analysis Batch: 23DSB015W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			02/10/23 18:02	1
JP5	ND	U	0.050		mg/L			02/10/23 18:02	1
JP8	ND	U	0.050		mg/L			02/10/23 18:02	1
MOTOR OIL	ND	U	0.050		mg/L			02/10/23 18:02	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-36166-1

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

Lab Sample ID: 23DSB015WB
Matrix: WATER
Analysis Batch: 23DSB015W

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
BROMOBENZENE					02/10/23 18:02	1
HEXACOSANE					02/10/23 18:02	1

Lab Sample ID: 23DSB015WL
Matrix: WATER
Analysis Batch: 23DSB015W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
DIESEL	2.50	2.70		mg/L		108	50 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	102		60 - 130
HEXACOSANE	104		60 - 130

Lab Sample ID: 23J5B015WL
Matrix: WATER
Analysis Batch: 23DSB015W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP5	2.50	2.16		mg/L		86	30 - 160

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	97		60 - 130
HEXACOSANE	97		60 - 130

Lab Sample ID: 23J8B015WL
Matrix: WATER
Analysis Batch: 23DSB015W

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
JP8	2.50	2.50		mg/L		100	30 - 160

Surrogate	LCS %Recovery	LCS Qualifier	Limits
BROMOBENZENE	105		60 - 130
HEXACOSANE	96		60 - 130

QC Association Summary

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

Job ID: 380-36166-1

GC/MS Semi VOA

Prep Batch: 31502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	525.2	
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	
MB 380-31502/1-A	Method Blank	Total/NA	Water	525.2	
LCS 380-31502/3-A	Lab Control Sample	Total/NA	Water	525.2	
LCSD 380-31502/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	
MRL 380-31502/2-A	Lab Control Sample	Total/NA	Water	525.2	
380-36127-A-1-A MS	Matrix Spike	Total/NA	Water	525.2	
380-36166-2 DU	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	525.2	

Analysis Batch: 31772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	525.2	31502
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	525.2	31502
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	525.2	31502
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	525.2	31502
MB 380-31502/1-A	Method Blank	Total/NA	Water	525.2	31502
LCS 380-31502/3-A	Lab Control Sample	Total/NA	Water	525.2	31502
LCSD 380-31502/4-A	Lab Control Sample Dup	Total/NA	Water	525.2	31502
MRL 380-31502/2-A	Lab Control Sample	Total/NA	Water	525.2	31502
380-36127-A-1-A MS	Matrix Spike	Total/NA	Water	525.2	31502
380-36166-2 DU	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	525.2	31502

LCMS

Prep Batch: 31380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1 DW	
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-36166-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP400)	Total/NA	Water	537.1 DW	
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Water	537.1 DW	
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	537.1 DW	
MBL 380-31380/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-31380/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
LCSD 380-31380/24-A	Lab Control Sample Dup	Total/NA	Water	537.1 DW	
MRL 380-31380/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-36138-M-1-A LMS	Matrix Spike	Total/NA	Water	537.1 DW	
380-36138-N-1-A LMSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 31432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	533	
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-36166-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP400)	Total/NA	Water	533	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-36166-1

LCMS (Continued)

Prep Batch: 31432 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0	Total/NA	Water	533	
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP0	Total/NA	Water	533	
MBL 380-31432/1-A	Method Blank	Total/NA	Water	533	
LCS 380-31432/3-A	Lab Control Sample	Total/NA	Water	533	
LCSD 380-31432/4-A	Lab Control Sample Dup	Total/NA	Water	533	
MRL 380-31432/2-A	Lab Control Sample	Total/NA	Water	533	
380-36166-4 LMS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-36166-4 LMSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	

Analysis Batch: 31570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	31380
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	537.1	31380
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	31380
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	31380
380-36166-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	31380
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP	Total/NA	Water	537.1	31380
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0	Total/NA	Water	537.1	31380
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP0	Total/NA	Water	537.1	31380
MBL 380-31380/21-A	Method Blank	Total/NA	Water	537.1	31380
LCS 380-31380/23-A	Lab Control Sample	Total/NA	Water	537.1	31380
LCSD 380-31380/24-A	Lab Control Sample Dup	Total/NA	Water	537.1	31380
MRL 380-31380/22-A	Lab Control Sample	Total/NA	Water	537.1	31380
380-36138-M-1-A LMS	Matrix Spike	Total/NA	Water	537.1	31380
380-36138-N-1-A LMSD	Matrix Spike Duplicate	Total/NA	Water	537.1	31380

Analysis Batch: 31593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	31432
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	533	31432
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	31432
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	31432
380-36166-9	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	31432
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260)(331-203-TP	Total/NA	Water	533	31432
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP0	Total/NA	Water	533	31432
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP0	Total/NA	Water	533	31432
MBL 380-31432/1-A	Method Blank	Total/NA	Water	533	31432
LCS 380-31432/3-A	Lab Control Sample	Total/NA	Water	533	31432
LCSD 380-31432/4-A	Lab Control Sample Dup	Total/NA	Water	533	31432
MRL 380-31432/2-A	Lab Control Sample	Total/NA	Water	533	31432
380-36166-4 LMS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	31432
380-36166-4 LMSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	31432

Subcontract

Analysis Batch: O-40118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40118_P
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40118_P

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-36166-1

Subcontract (Continued)

Analysis Batch: O-40118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40118_P
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-40118_P
103960-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40118_P
103960-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40118_P
103960-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-40118_P

Analysis Batch: 23DSB015W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 LL DRO/MRO/JP5/J P8	
23DSB015WB	Method Blank	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23DSB015WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J5B015WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	
23J8B015WL	Lab Control Sample	Total/NA	WATER	8015 LL DRO/MRO/JP5/J P8	

Analysis Batch: 23VG39B06

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	8015 Gas (Purgeable) LL (EAL)	
380-36166-5	TB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-36166-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-36166-1

Subcontract (Continued)

Analysis Batch: 23VG39B06 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP06	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-36166-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
23VG39B06B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23VG39B06L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23B030-01M	Matrix Spike	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
23B030-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-40118_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-36166-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA_625	
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400	Total/NA	Drinking Water	EPA_625	
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	EPA_625	
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA_625	
103960-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
103960-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
103960-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

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

Job ID: 380-36166-1

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-1

Date Collected: 01/30/23 09:46

Matrix: Drinking Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			31502	OTM3	EA MON	02/03/23 06:37
Total/NA	Analysis	525.2		1	31772	Q8LA	EA MON	02/06/23 16:54
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 04:11
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 17:06
Total/NA	Prep	EPA_625		1	O-40118_P			02/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40118	YC		02/19/23 01:10
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/03/23 14:30
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB015W	SDees		02/10/23 20:11

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

Lab Sample ID: 380-36166-2

Date Collected: 01/30/23 10:43

Matrix: Drinking Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			31502	OTM3	EA MON	02/03/23 06:37
Total/NA	Analysis	525.2		1	31772	Q8LA	EA MON	02/06/23 17:14
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 04:20
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 17:16
Total/NA	Prep	EPA_625		1	O-40118_P			02/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40118	YC		02/19/23 02:54
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/03/23 16:20
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB015W	SDees		02/10/23 20:29

Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

Lab Sample ID: 380-36166-3

Date Collected: 01/30/23 10:15

Matrix: Drinking Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			31502	OTM3	EA MON	02/03/23 06:37
Total/NA	Analysis	525.2		1	31772	Q8LA	EA MON	02/06/23 17:35
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 04:30
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 17:26

Eurofins Eaton Analytical Pomona

Lab Chronicle

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

Job ID: 380-36166-1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-3

Date Collected: 01/30/23 10:15

Matrix: Drinking Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-40118_P			02/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40118	YC		02/19/23 04:39
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/03/23 16:56
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB015W	SDees		02/10/23 20:48

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-4

Date Collected: 01/30/23 11:13

Matrix: Drinking Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			31502	OTM3	EA MON	02/03/23 06:37
Total/NA	Analysis	525.2		1	31772	Q8LA	EA MON	02/06/23 17:55
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 01:35
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 17:35
Total/NA	Prep	EPA_625		1	O-40118_P			02/02/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-40118	YC		02/19/23 06:23
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/04/23 16:38
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSB015W	SDees		02/10/23 21:06

Client Sample ID: TB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-5

Date Collected: 01/30/23 09:46

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/04/23 17:14

**Client Sample ID: TB: AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-36166-6

Date Collected: 01/30/23 10:43

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/04/23 17:50

Eurofins Eaton Analytical Pomona

Lab Chronicle

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

Job ID: 380-36166-1

**Client Sample ID: TB: HALAWA WELLS UNITS 1&2
(331-206-TP065)**

Lab Sample ID: 380-36166-7

Date Collected: 01/30/23 10:15

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/04/23 18:26

Client Sample ID: TB:AIEA GULCH WELLS P2 (331-202-TP072)

Lab Sample ID: 380-36166-8

Date Collected: 01/30/23 11:13

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39B06	SCerva		02/04/23 19:02

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-36166-9

Date Collected: 01/30/23 09:46

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 04:39
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 17:45

**Client Sample ID: FB:AIEA WELLS PUMPS 1&2 (260)
(331-203-TP400)**

Lab Sample ID: 380-36166-10

Date Collected: 01/30/23 10:43

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 04:49
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 17:54

**Client Sample ID: FB:HALAWA WELLS UNITS 1 & 2
(331-206-TP065)**

Lab Sample ID: 380-36166-11

Date Collected: 01/30/23 10:15

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 04:58
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 18:04

Lab Chronicle

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

Job ID: 380-36166-1

**Client Sample ID: FB:AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-36166-12

Date Collected: 01/30/23 11:13

Matrix: Water

Date Received: 02/01/23 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			31432	P8ZX	EA MON	02/02/23 12:35
Total/NA	Analysis	533		1	31593	UKYM	EA MON	02/04/23 05:08
Total/NA	Prep	537.1 DW			31380	US1B	EA MON	02/02/23 07:42
Total/NA	Analysis	537.1		1	31570	UKYM	EA MON	02/03/23 18:14

Laboratory References:

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

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

Accreditation/Certification Summary

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

Job ID: 380-36166-1

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	02-29-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	2,4'-DDD
525.2	525.2	Drinking Water	2,4'-DDE
525.2	525.2	Drinking Water	2,4'-DDT
525.2	525.2	Drinking Water	2,4-Dinitrotoluene
525.2	525.2	Drinking Water	2,6-Dinitrotoluene
525.2	525.2	Drinking Water	4,4'-DDD
525.2	525.2	Drinking Water	4,4'-DDE
525.2	525.2	Drinking Water	4,4'-DDT
525.2	525.2	Drinking Water	Acenaphthene
525.2	525.2	Drinking Water	Acenaphthylene
525.2	525.2	Drinking Water	Acetochlor
525.2	525.2	Drinking Water	alpha-BHC
525.2	525.2	Drinking Water	alpha-Chlordane
525.2	525.2	Drinking Water	Anthracene
525.2	525.2	Drinking Water	Benz(a)anthracene
525.2	525.2	Drinking Water	Benzo[b]fluoranthene
525.2	525.2	Drinking Water	Benzo[g,h,i]perylene
525.2	525.2	Drinking Water	Benzo[k]fluoranthene
525.2	525.2	Drinking Water	beta-BHC
525.2	525.2	Drinking Water	Bromacil
525.2	525.2	Drinking Water	Butylbenzylphthalate
525.2	525.2	Drinking Water	Caffeine
525.2	525.2	Drinking Water	Chlorobenzilate
525.2	525.2	Drinking Water	Chloroneb
525.2	525.2	Drinking Water	Chlorothalonil (Draconil, Bravo)
525.2	525.2	Drinking Water	Chlorpyrifos
525.2	525.2	Drinking Water	Chrysene
525.2	525.2	Drinking Water	delta-BHC
525.2	525.2	Drinking Water	Diazinon (Qualitative)
525.2	525.2	Drinking Water	Dibenz(a,h)anthracene
525.2	525.2	Drinking Water	Diclorvos (DDVP)
525.2	525.2	Drinking Water	Diethylphthalate
525.2	525.2	Drinking Water	Dimethoate
525.2	525.2	Drinking Water	Dimethylphthalate
525.2	525.2	Drinking Water	Di-n-butyl phthalate
525.2	525.2	Drinking Water	Di-n-octyl phthalate
525.2	525.2	Drinking Water	Endosulfan I (Alpha)
525.2	525.2	Drinking Water	Endosulfan II (Beta)
525.2	525.2	Drinking Water	Endosulfan sulfate
525.2	525.2	Drinking Water	Endrin aldehyde
525.2	525.2	Drinking Water	EPTC
525.2	525.2	Drinking Water	Fluoranthene
525.2	525.2	Drinking Water	Fluorene
525.2	525.2	Drinking Water	gamma-Chlordane
525.2	525.2	Drinking Water	Indeno[1,2,3-cd]pyrene

Accreditation/Certification Summary

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

Job ID: 380-36166-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Drinking Water	Isophorone
525.2	525.2	Drinking Water	Malathion
525.2	525.2	Drinking Water	Molinate
525.2	525.2	Drinking Water	Naphthalene
525.2	525.2	Drinking Water	Parathion
525.2	525.2	Drinking Water	Pendimethalin (Penoxaline)
525.2	525.2	Drinking Water	Phenanthrene
525.2	525.2	Drinking Water	Pyrene
525.2	525.2	Drinking Water	Terbacil
525.2	525.2	Drinking Water	Terbutylazine
525.2	525.2	Drinking Water	Thiobencarb
525.2	525.2	Drinking Water	Total Permethrin (mixed isomers)
525.2	525.2	Drinking Water	trans-Nonachlor
525.2	525.2	Drinking Water	Trifluralin
533	533	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Drinking Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
533	533	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
533	533	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Drinking Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Drinking Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)
533	533	Drinking Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Drinking Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Drinking Water	Perfluorobutanoic acid (PFBA)
533	533	Drinking Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Drinking Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Drinking Water	Perfluoropentanoic acid (PFPeA)
533	533	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
533	533	Water	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)
533	533	Water	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)
533	533	Water	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)
533	533	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)

Accreditation/Certification Summary

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

Job ID: 380-36166-1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
533	533	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
533	533	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
533	533	Water	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)
533	533	Water	Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)
533	533	Water	Perfluoro-3-methoxypropanoic acid (PFMPA)
533	533	Water	Perfluoro-4-methoxybutanoic acid (PFMBA)
533	533	Water	Perfluorobutanoic acid (PFBA)
533	533	Water	Perfluoroheptanesulfonic acid (PFHpS)
533	533	Water	Perfluoropentanesulfonic acid (PFPeS)
533	533	Water	Perfluoropentanoic acid (PFPeA)
537.1	537.1 DW	Drinking Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Drinking Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Drinking Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Drinking Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)
537.1	537.1 DW	Water	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)
537.1	537.1 DW	Water	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537.1	537.1 DW	Water	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)
537.1	537.1 DW	Water	Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)

Method Summary

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

Job ID: 380-36166-1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA MON
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA MON
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA MON
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	
525.2	Extraction of Semivolatile Compounds	EPA	EA MON
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA MON
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA MON

Protocol References:

EPA = US Environmental Protection Agency

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 Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Sample Summary

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

Job ID: 380-36166-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-36166-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	01/30/23 09:46	02/01/23 10:15	HI0000331
380-36166-2	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	01/30/23 10:43	02/01/23 10:15	HI0000331
380-36166-3	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	01/30/23 10:15	02/01/23 10:15	HI0000331
380-36166-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	01/30/23 11:13	02/01/23 10:15	HI0000331
380-36166-5	TB:MOANALUA WELLS (331-223-TP202)	Water	01/30/23 09:46	02/01/23 10:15	
380-36166-6	TB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	01/30/23 10:43	02/01/23 10:15	
380-36166-7	TB: HALAWA WELLS UNITS 1&2 (331-206-TP065)	Water	01/30/23 10:15	02/01/23 10:15	
380-36166-8	TB:AIEA GULCH WELLS P2 (331-202-TP072)	Water	01/30/23 11:13	02/01/23 10:15	
380-36166-9	FB:MOANALUA WELLS (331-223-TP202)	Water	01/30/23 09:46	02/01/23 10:15	
380-36166-10	FB:AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	01/30/23 10:43	02/01/23 10:15	
380-36166-11	FB:HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	01/30/23 10:15	02/01/23 10:15	
380-36166-12	FB:AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	01/30/23 11:13	02/01/23 10:15	



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

Date: 03-07-2023
EMAX Batch No.: 23B030

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-36166

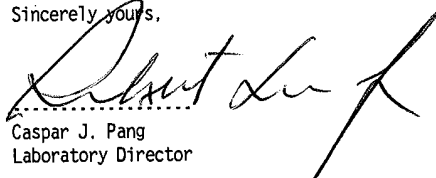
Enclosed is the Laboratory report for samples received on 02/02/23.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-36166-1	B030-01	01/30/23	WATER	TPH GASOLINE TPH
380-36166-2	B030-02	01/30/23	WATER	TPH GASOLINE TPH
380-36166-3	B030-03	01/30/23	WATER	TPH GASOLINE TPH
380-36166-4	B030-04	01/30/23	WATER	TPH GASOLINE TPH
380-36166-5	B030-05	01/30/23	WATER	TPH GASOLINE
380-36166-6	B030-06	01/30/23	WATER	TPH GASOLINE
380-36166-7	B030-07	01/30/23	WATER	TPH GASOLINE
380-36166-8	B030-08	01/30/23	WATER	TPH GASOLINE
380-36166-1MS	B030-01M	01/30/23	WATER	TPH GASOLINE
380-36166-1MSD	B030-01S	01/30/23	WATER	TPH GASOLINE

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.

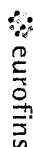
NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

Monrovia, CA (Suite 100)

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

Chain of Custody Record

23 B030



Environment Testing

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:																																																																																										
Client Contact:	Phone:	Arada, Rachelle	State of Origin:	380-37854.1	Page:																																																																																										
Shipping/Receiving		Rachelle.Arada@eurofins.com	Hawaii	Page 1 of 1	Job #:																																																																																										
Company:	EMAX Laboratories Inc	Due Date Requested:	State - Hawaii	Accreditations Required (See note):	380-36166-1																																																																																										
Address:	3051 Fujita Street,	2/8/2023																																																																																													
City:	Torrance	TAT Requested (days):																																																																																													
State, Zip:	CA, 90505																																																																																														
Phone:		PO #:																																																																																													
Email:		WO #:																																																																																													
Project Name:	RED-HILL	Project #:																																																																																													
Site:	Honolulu BWS Sites	SSOW#:																																																																																													
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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 said compliance to Eurofins Eaton Analytical, LLC.																																																																																															
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2 Special Instructions/QC Requirements: _____ Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months																																																																																															
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____ Relinquished by: _____ Date/Time: 2/2/23 1526 Company: CEA Received by: Alan P Date/Time: 2/8/23 1526 Company: CEA Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: Temp. 5.2/5.0 Δ Yes Δ No																																																																																															

REPORT ID: 23B030

[CF: -0.2]



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

Type of Delivery ☐ Fedex ☐ UPS ☐ GSO ☐ Others ☐ EMAX Courier ☒ Client Delivery	Airbill / Tracking Number	ECN 233030 Recipient Alan Ramos Date 02/02/23 Time 15:26
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COC INSPECTION					
☒ Client Name	☒ Client PM/FC	☐ Sampler Name	☒ Sampling Date/Time	☐ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☐ Preservative (if any)	☒ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		
Note:					

PACKAGING INSPECTION					
Container	☒ Cooler	☐ Box	☐ Other		
Condition correction factor: -0.2	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☒ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐
Temperatures (Cool, ≤6 °C but not frozen)	☒ Cooler 1 5.2/5.0 °C	☐ Cooler 2 °C	☐ Cooler 3 °C	☐ Cooler 4 °C	☐ Cooler 5 °C
Thermometer: A-S/N 221052768	☐ Cooler 6 °C	☐ Cooler 7 °C	☐ Cooler 8 °C	☐ Cooler 9 °C	☐ Cooler 10 °C
B-S/N 210760237		C-S/N		D-S/N	
Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.					
Note:					

DISCREPANCIES					Corrective Action
LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information		
1-4	5,6,11,12,17,18,23,24	D1	JPS/J88 Analysis not indicated		R8
5-8	25-32	D22	2nd date/time rec'd: 1/23/23 at 6:30		R1

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

REVIEWS:

Sample Labeling

Date 02/02/23

SRF

Date

PM

Date

REPORT ID: 23B030

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

380-36166

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

SDG#: 23B030

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-36166

SDG : 23B030

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

A total of eight(8) water samples were received on 02/02/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39B06B - 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. VG39B06L/VG39B06C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in B030-01M/B030-01S. Refer to Matrix QC summary form for details.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-36166

SDG NO. : 23B030
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39B06B	1	NA	02/03/2312:40	02/03/2312:40	EB03005A	EB03004A	23VG39B06	Method Blank
LCS1W	VG39B06L	1	NA	02/03/2313:16	02/03/2313:16	EB03006A	EB03004A	23VG39B06	Lab Control Sample (LCS)
LCD1W	VG39B06C	1	NA	02/03/2313:52	02/03/2313:52	EB03007A	EB03004A	23VG39B06	LCS Duplicate
380-36166-1	B030-01	1	NA	02/03/2314:30	02/03/2314:30	EB03008A	EB03004A	23VG39B06	Field Sample
380-36166-1MS	B030-01M	1	NA	02/03/2315:06	02/03/2315:06	EB03009A	EB03004A	23VG39B06	Matrix Spike Sample (MS)
380-36166-1MSD	B030-01S	1	NA	02/03/2315:44	02/03/2315:44	EB03010A	EB03004A	23VG39B06	MS Duplicate (MSD)
380-36166-2	B030-02	1	NA	02/03/2316:20	02/03/2316:20	EB03011A	EB03004A	23VG39B06	Field Sample
380-36166-3	B030-03	1	NA	02/03/2316:56	02/03/2316:56	EB03012A	EB03004A	23VG39B06	Field Sample
380-36166-4	B030-04R	1	NA	02/04/2316:38	02/04/2316:38	EB03032A	EB03030A	23VG39B06	Field Sample
380-36166-5	B030-05R	1	NA	02/04/2317:14	02/04/2317:14	EB03033A	EB03030A	23VG39B06	Field Sample
380-36166-6	B030-06R	1	NA	02/04/2317:50	02/04/2317:50	EB03034A	EB03030A	23VG39B06	Field Sample
380-36166-7	B030-07R	1	NA	02/04/2318:26	02/04/2318:26	EB03035A	EB03030A	23VG39B06	Field Sample
380-36166-8	B030-08R	1	NA	02/04/2319:02	02/04/2319:02	EB03036A	EB03030A	23VG39B06	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/30/23 09:46
Project	: 380-36166	Date Received:	02/02/23
Batch No.	: 23B030	Date Extracted:	02/03/23 14:30
Sample ID	: 380-36166-1	Date Analyzed:	02/03/23 14:30
Lab Samp ID:	B030-01	Dilution Factor:	1
Lab File ID:	EB03008A	Matrix:	WATER
Ext Btch ID:	23VG39B06	% Moisture:	NA
Calib. Ref.:	EB03004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0335	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

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

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:43
Project : 380-36166	Date Received: 02/02/23
Batch No. : 23B030	Date Extracted: 02/03/23 16:20
Sample ID : 380-36166-2	Date Analyzed: 02/03/23 16:20
Lab Samp ID: B030-02	Dilution Factor: 1
Lab File ID: EB03011A	Matrix: WATER
Ext Btch ID: 23VG39B06	% Moisture: NA
Calib. Ref.: EB03004A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0326	0.0400	81	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:15
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/03/23 16:56
Sample ID	: 380-36166-3	Date Analyzed: 02/03/23 16:56
Lab Samp ID:	B030-03	Dilution Factor: 1
Lab File ID:	EB03012A	Matrix: WATER
Ext Btch ID:	23VG39B06	% Moisture: NA
Calib. Ref.:	EB03004A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0327	0.0400	82	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client : EUROFINS EATON ANALYTICAL Date Collected: 01/30/23 11:13
Project : 380-36166 Date Received: 02/02/23
Batch No. : 23B030 Date Extracted: 02/04/23 16:38
Sample ID : 380-36166-4 Date Analyzed: 02/04/23 16:38
Lab Samp ID: B030-04R Dilution Factor: 1
Lab File ID: EB03032A Matrix: WATER
Ext Btch ID: 23VG39B06 % Moisture: NA
Calib. Ref.: EB03030A Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0335	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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 09:46
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/04/23 17:14
Sample ID	: 380-36166-5	Date Analyzed: 02/04/23 17:14
Lab Samp ID:	B030-05R	Dilution Factor: 1
Lab File ID:	EB03033A	Matrix: WATER
Ext Btch ID:	23VG39B06	% Moisture: NA
Calib. Ref.:	EB03030A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0329	0.0400	82	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:43
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/04/23 17:50
Sample ID	: 380-36166-6	Date Analyzed: 02/04/23 17:50
Lab Samp ID:	B030-06R	Dilution Factor: 1
Lab File ID:	EB03034A	Matrix: WATER
Ext Btch ID:	23VG39B06	% Moisture: NA
Calib. Ref.:	EB03030A	Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0333	0.0400	83	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/30/23 10:15
Project	: 380-36166	Date Received:	02/02/23
Batch No.	: 23B030	Date Extracted:	02/04/23 18:26
Sample ID	: 380-36166-7	Date Analyzed:	02/04/23 18:26
Lab Samp ID:	B030-07R	Dilution Factor:	1
Lab File ID:	EB03035A	Matrix:	WATER
Ext Btch ID:	23VG39B06	% Moisture:	NA
Calib. Ref.:	EB03030A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0333	0.0400	83	60-140

Notes:

Parameter H-C Range
Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/30/23 11:13
Project	: 380-36166	Date Received:	02/02/23
Batch No.	: 23B030	Date Extracted:	02/04/23 19:02
Sample ID	: 380-36166-8	Date Analyzed:	02/04/23 19:02
Lab Samp ID:	B030-08R	Dilution Factor:	1
Lab File ID:	EB03036A	Matrix:	WATER
Ext Btch ID:	23VG39B06	% Moisture:	NA
Calib. Ref.:	EB03030A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0339	0.0400	85	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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	02/03/23 12:40
Project	: 380-36166	Date Received:	02/03/23
Batch No.	: 23B030	Date Extracted:	02/03/23 12:40
Sample ID	: MBLK1W	Date Analyzed:	02/03/23 12:40
Lab Samp ID:	VG39B06B	Dilution Factor:	1
Lab File ID:	EB03005A	Matrix:	WATER
Ext Btch ID:	23VG39B06	% Moisture:	NA
Calib. Ref.:	EB03004A	Instrument ID:	39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0319	0.0400	80	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 : 380-36166
BATCH NO. : 23B030
METHOD : 5030B/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID : VG39B06B	VG39B06L	VG39B06C
LAB FILE ID : EB03005A	EB03006A	EB03007A
DATE PREPARED : 02/03/23 12:40	02/03/23 13:16	02/03/23 13:52
DATE ANALYZED : 02/03/23 12:40	02/03/23 13:16	02/03/23 13:52
PREP BATCH : 23VG39B06	23VG39B06	23VG39B06
CALIBRATION REF: EB03004A	EB03004A	EB03004A

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	0.422	84	0.500	0.468	94	10	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0417	104	0.0400	0.0423	106	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 : 380-36166
BATCH NO. : 23B030
METHOD : 5030B/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1 1
SAMPLE ID : 380-36166-1 380-36166-1MS 380-36166-1MSD
LAB SAMPLE ID : B030-01 B030-01M B030-01S
LAB FILE ID : EB03008A EB03009A EB03010A
DATE PREPARED : 02/03/23 14:30 02/03/23 15:06 02/03/23 15:44
DATE ANALYZED : 02/03/23 14:30 02/03/23 15:06 02/03/23 15:44
PREP BATCH : 23VG39B06 23VG39B06 23VG39B06
CALIBRATION REF: EB03004A EB03004A EB03004A

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	0.478	96	0.500	0.515	103	7	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0430	108	0.0400	0.0450	113	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-36166

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23B030

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-36166

SDG : 23B030

METHOD 3520C/8015B TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 02/02/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB015WB - 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. DSB015WL/DSB015WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-36166

SDG : 23B030

METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 02/02/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB015WB - 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. J5B015WL/J5B015WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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.

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-36166

SDG : 23B030

METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

A total of four(4) water samples were received on 02/02/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

Calibration

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

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSB015WB - 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. J8B015WL/J8B015WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG.

Surrogate

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

Sample Analysis

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

LAB CHRONICLE

Client : EUROFINS EATON ANALYTICAL
Project : 380-36166

WATER

FN	- Filename
% Moist	- Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	SDG NO.	: 23B030
Project	: 380-36166	Instrument ID	: D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSB015WB	1	NA	02/10/2318:02	02/08/2311:15	LB10023A	LB10018A	23DSB015W	Method Blank
LCS1W	J5B015WL	1	NA	02/10/2318:57	02/08/2311:15	LB10026A	LB10018A	23DSB015W	Lab Control Sample (LCS)
LCD1W	J5B015WC	1	NA	02/10/2319:16	02/08/2311:15	LB10027A	LB10018A	23DSB015W	LCS Duplicate
380-36166-1	B030-01	1	NA	02/10/2320:11	02/08/2311:15	LB10030A	LB10018A	23DSB015W	Field Sample
380-36166-2	B030-02	1	NA	02/10/2320:29	02/08/2311:15	LB10031A	LB10018A	23DSB015W	Field Sample
380-36166-3	B030-03	1	NA	02/10/2320:48	02/08/2311:15	LB10032A	LB10018A	23DSB015W	Field Sample
380-36166-4	B030-04	1	NA	02/10/2321:06	02/08/2311:15	LB10033A	LB10018A	23DSB015W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL
Project : 380-36166
SDG NO. : 23B030
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSB015WB	1	NA	02/10/2318:02	02/08/2311:15	LB10023A	LB10019A	23DSB015W	Method Blank
LCS1W	J8B015WL	1	NA	02/10/2319:34	02/08/2311:15	LB10028A	LB10019A	23DSB015W	Lab Control Sample (LCS)
LCD1W	J8B015WC	1	NA	02/10/2319:52	02/08/2311:15	LB10029A	LB10019A	23DSB015W	LCS Duplicate
380-36166-1	B030-01	1	NA	02/10/2320:11	02/08/2311:15	LB10030A	LB10019A	23DSB015W	Field Sample
380-36166-2	B030-02	1	NA	02/10/2320:29	02/08/2311:15	LB10031A	LB10019A	23DSB015W	Field Sample
380-36166-3	B030-03	1	NA	02/10/2320:48	02/08/2311:15	LB10032A	LB10019A	23DSB015W	Field Sample
380-36166-4	B030-04	1	NA	02/10/2321:06	02/08/2311:15	LB10033A	LB10019A	23DSB015W	Field Sample

FN - Filename
% Moist - Percent Moisture

1
2
3
4
5
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18

SAMPLE RESULTS

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 09:46
Project : 380-36166	Date Received: 02/02/23
Batch No. : 23B030	Date Extracted: 02/08/23 11:15
Sample ID : 380-36166-1	Date Analyzed: 02/10/23 20:11
Lab Samp ID: 23B030-01	Dilution Factor: 1
Lab File ID: LB10030A	Matrix: WATER
Ext Btch ID: 23DSB015W	% Moisture: NA
Calib. Ref.: LB10017A	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	0.508	0.495	103	60-130
Hexacosane	0.130	0.124	105	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 : 1010ml Final Volume : 5ml
Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 09:46
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: 380-36166-1	Date Analyzed: 02/10/23 20:11
Lab Samp ID:	23B030-01	Dilution Factor: 1
Lab File ID:	LB10030A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10018A	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	0.508	0.495	103	60-130
Hexacosane	0.130	0.124	105	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 : 1010ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 09:46
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: 380-36166-1	Date Analyzed: 02/10/23 20:11
Lab Samp ID:	23B030-01	Dilution Factor: 1
Lab File ID:	LB10030A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10019A	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	0.508	0.495	103	60-130
Hexacosane	0.130	0.124	105	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 : 1010ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:43
Project : 380-36166	Date Received: 02/02/23
Batch No. : 23B030	Date Extracted: 02/08/23 11:15
Sample ID : 380-36166-2	Date Analyzed: 02/10/23 20:29
Lab Samp ID: 23B030-02	Dilution Factor: 1
Lab File ID: LB10031A	Matrix: WATER
Ext Btch ID: 23DSB015W	% Moisture: NA
Calib. Ref.: LB10017A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.024	0.012
Motor Oil	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.456	0.480	95	60-130
Hexacosane	0.130	0.120	108	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 : 1040ml	Final Volume : 5ml
Prepared by : P0reto	Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:43
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: 380-36166-2	Date Analyzed: 02/10/23 20:29
Lab Samp ID:	23B030-02	Dilution Factor: 1
Lab File ID:	LB10031A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10018A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.456	0.480	95	60-130
Hexacosane	0.130	0.120	108	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 : 1040ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:43
Project : 380-36166	Date Received: 02/02/23
Batch No. : 23B030	Date Extracted: 02/08/23 11:15
Sample ID : 380-36166-2	Date Analyzed: 02/10/23 20:29
Lab Samp ID: 23B030-02	Dilution Factor: 1
Lab File ID: LB10031A	Matrix: WATER
Ext Btch ID: 23DSB015W	% Moisture: NA
Calib. Ref.: LB10019A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.048	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.456	0.480	95	60-130
Hexacosane	0.130	0.120	108	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 : 1040ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/30/23 10:15
Project	: 380-36166	Date Received:	02/02/23
Batch No.	: 23B030	Date Extracted:	02/08/23 11:15
Sample ID	: 380-36166-3	Date Analyzed:	02/10/23 20:48
Lab Samp ID:	23B030-03	Dilution Factor:	1
Lab File ID:	LB10032A	Matrix:	WATER
Ext Btch ID:	23DSB015W	% Moisture:	NA
Calib. Ref.:	LB10017A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Diesel	ND	0.024	0.012
Motor Oil	ND	0.049	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.421	0.485	87	60-130
Hexacosane	0.117	0.121	97	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 : 1030ml Final Volume : 5ml
Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 10:15
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: 380-36166-3	Date Analyzed: 02/10/23 20:48
Lab Samp ID:	23B030-03	Dilution Factor: 1
Lab File ID:	LB10032A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10018A	Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.049	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.421	0.485	87	60-130
Hexacosane	0.117	0.121	97	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 : 1030ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/30/23 10:15
Project	: 380-36166	Date Received:	02/02/23
Batch No.	: 23B030	Date Extracted:	02/08/23 11:15
Sample ID	: 380-36166-3	Date Analyzed:	02/10/23 20:48
Lab Samp ID:	23B030-03	Dilution Factor:	1
Lab File ID:	LB10032A	Matrix:	WATER
Ext Btch ID:	23DSB015W	% Moisture:	NA
Calib. Ref.:	LB10019A	Instrument ID:	D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP8	ND	0.049	0.024

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.421	0.485	87	60-130
Hexacosane	0.117	0.121	97	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 : 1030ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 11:13
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: 380-36166-4	Date Analyzed: 02/10/23 21:06
Lab Samp ID:	23B030-04	Dilution Factor: 1
Lab File ID:	LB10033A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10017A	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	0.547	0.520	105	60-130
Hexacosane	0.131	0.130	101	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml Final Volume : 5ml
Prepared by : P0reto Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 01/30/23 11:13
Project	: 380-36166	Date Received: 02/02/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: 380-36166-4	Date Analyzed: 02/10/23 21:06
Lab Samp ID:	23B030-04	Dilution Factor: 1
Lab File ID:	LB10033A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10018A	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	0.547	0.520	105	60-130
Hexacosane	0.131	0.130	101	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	01/30/23 11:13
Project	: 380-36166	Date Received:	02/02/23
Batch No.	: 23B030	Date Extracted:	02/08/23 11:15
Sample ID	: 380-36166-4	Date Analyzed:	02/10/23 21:06
Lab Samp ID:	23B030-04	Dilution Factor:	1
Lab File ID:	LB10033A	Matrix:	WATER
Ext Btch ID:	23DSB015W	% Moisture:	NA
Calib. Ref.:	LB10019A	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	0.547	0.520	105	60-130
Hexacosane	0.131	0.130	101	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

QC SUMMARIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 02/08/23 11:15
Project	: 380-36166	Date Received: 02/08/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: MBLK1W	Date Analyzed: 02/10/23 18:02
Lab Samp ID:	DSB015WB	Dilution Factor: 1
Lab File ID:	LB10023A	Matrix: WATER
Ext Btch ID:	23DSB015W	% Moisture: NA
Calib. Ref.:	LB10017A	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	0.492	0.500	98	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-36166
BATCH NO. : 23B030
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSB015WB	DSB015WL	DSB015WC
LAB FILE ID	: LB10023A	LB10024A	LB10025A
DATE PREPARED	: 02/08/23 11:15	02/08/23 11:15	02/08/23 11:15
DATE ANALYZED	: 02/10/23 18:02	02/10/23 18:20	02/10/23 18:39
PREP BATCH	: 23DSB015W	23DSB015W	23DSB015W
CALIBRATION REF:	LB10017A	LB10017A	LB10017A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.70	108	2.50	2.63	105	3	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.508	102	0.500	0.482	96	60-130
Hexacosane	0.125	0.130	104	0.125	0.130	104	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 02/08/23 11:15
Project	: 380-36166	Date Received: 02/08/23
Batch No.	: 23B030	Date Extracted: 02/08/23 11:15
Sample ID	: MBLK1W	Date Analyzed: 02/10/23 18:02
Lab Samp ID	: DSB015WB	Dilution Factor: 1
Lab File ID	: LB10023A	Matrix: WATER
Ext Btch ID	: 23DSB015W	% Moisture: NA
Calib. Ref.:	: LB10018A	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	0.492	0.500	98	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-36166
BATCH NO. : 23B030
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : DSB015WB J5B015WL J5B015WC
LAB FILE ID : LB10023A LB10026A LB10027A
DATE PREPARED : 02/08/23 11:15 02/08/23 11:15 02/08/23 11:15
DATE ANALYZED : 02/10/23 18:02 02/10/23 18:57 02/10/23 19:16
PREP BATCH : 23DSB015W 23DSB015W 23DSB015W
CALIBRATION REF: LB10018A LB10018A LB10018A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.16	86	2.50	2.44	98	12	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.487	97	0.500	0.521	104	60-130
Hexacosane	0.125	0.121	97	0.125	0.137	110	60-130

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

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL	Date Collected: 02/08/23 11:15
Project : 380-36166	Date Received: 02/08/23
Batch No. : 23B030	Date Extracted: 02/08/23 11:15
Sample ID : MBLK1W	Date Analyzed: 02/10/23 18:02
Lab Samp ID: DSB015WB	Dilution Factor: 1
Lab File ID: LB10023A	Matrix: WATER
Ext Btch ID: 23DSB015W	% Moisture: NA
Calib. Ref.: LB10019A	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	0.492	0.500	98	60-130
Hexacosane	0.126	0.125	101	60-130

Notes:

RL : Reporting Limit

Parameter H-C Range

JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by : P0reto

Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-36166
BATCH NO. : 23B030
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: DSB015WB	J8B015WL	J8B015WC
LAB FILE ID	: LB10023A	LB10028A	LB10029A
DATE PREPARED	: 02/08/23 11:15	02/08/23 11:15	02/08/23 11:15
DATE ANALYZED	: 02/10/23 18:02	02/10/23 19:34	02/10/23 19:52
PREP BATCH	: 23DSB015W	23DSB015W	23DSB015W
CALIBRATION REF:	LB10019A	LB10019A	LB10019A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.50	2.50	100	2.50	2.27	91	10	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.527	105	0.500	0.555	111	60-130
Hexacosane	0.125	0.120	96	0.125	0.126	101	60-130

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

February 24, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-36166-1
Physis Project ID: 1407003-375

Dear Rachelle,

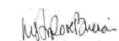
Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 2/2/2023. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylideneopropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs 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: 1407003-375

RED-HILL Project # 38001111 Job # 380-36166-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
103961	MOANALUA WELLS	331-223-TP202 (380-36166-1)	1/30/2023	9:46	Samplewater	Not Specified
103962	AIEA WELLS PUMPS 1&2 (26031-203-TP400 (380-36166-2)	331-203-TP400 (380-36166-2)	1/30/2023	10:43	Samplewater	Not Specified
103963	HALAWA WELLS UNITS 1 & 2 (331-206-TP065 (380-36166-3)	331-206-TP065 (380-36166-3)	1/30/2023	10:15	Samplewater	Not Specified
103964	AIEA GULCH WELLS PUMP (331-202-TP072 (380-36166-4)	331-202-TP072 (380-36166-4)	1/30/2023	11:13	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

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

QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

PHYSIS QUALIFIER CODES

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

CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

TERRA

LABORATORIES, INC.

AURA

Innovative Solutions for Nature

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103961-R1 MOANALUA WELLS 331-223-TP202 Matrix: Samplewater											
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40118	02-Feb-23	19-Feb-23
Sample ID: 103962-R1 AIEA WELLS PUMPS 1&2 (260) 331- Matrix: Samplewater											
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40118	02-Feb-23	19-Feb-23
Sample ID: 103963-R1 HALAWA WELLS UNITS 1 & 2 331-2 Matrix: Samplewater											
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40118	02-Feb-23	19-Feb-23
Sample ID: 103964-R1 AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater											
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103961-R1 MOANALUA WELLS 331-223-TP202 Matrix: Samplewater							Sampled:	30-Jan-23 9:46		Received:	02-Feb-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	97	1			Total		O-40118	02-Feb-23	19-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	98	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	104	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	95	1			Total		O-40118	02-Feb-23	19-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	87	1			Total		O-40118	02-Feb-23	19-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103962-R1 AIEA WELLS PUMPS 1&2 (260) 331- Matrix: Samplewater							Sampled:	30-Jan-23 10:43	Received:	02-Feb-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	102	1			Total		O-40118	02-Feb-23	19-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	101	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	108	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	100	1			Total		O-40118	02-Feb-23	19-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	94	1			Total		O-40118	02-Feb-23	19-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103963-R1	HALAWA WELLS UNITS 1 & 2 331-2	Matrix: Samplewater					Sampled: 30-Jan-23 10:15			Received: 02-Feb-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	100	1			Total		O-40118	02-Feb-23	19-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	98	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	108	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	100	1			Total		O-40118	02-Feb-23	19-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	94	1			Total		O-40118	02-Feb-23	19-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 103964-R1	AIEA GULCH WELLS PUMP 2 331-20 Matrix: Samplewater						Sampled:	30-Jan-23 11:13		Received:	02-Feb-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	98	1			Total		O-40118	02-Feb-23	19-Feb-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	101	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Chrysene)	EPA 625.1	% Recovery	74	1			Total		O-40118	02-Feb-23	19-Feb-23
(d12-Perylene)	EPA 625.1	% Recovery	75	1			Total		O-40118	02-Feb-23	19-Feb-23
(d8-Naphthalene)	EPA 625.1	% Recovery	91	1			Total		O-40118	02-Feb-23	19-Feb-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-40118	02-Feb-23	19-Feb-23

QUALITY CONTROL REPORT

TERRA

AURA

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
									LIMITS	LIMITS	
Sample ID: 103960-B1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23	
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L					
Sample ID: 103960-BS1		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23	
Disalicylidenepropanediamin	Total	47.7	1	0.05	0.1	µg/L	50	0	95	50 - 150% PASS	
Sample ID: 103960-BS2		QAQC Procedural Blank				Matrix: BlankMatrix		Sampled:		Received:	
		Method: EPA 625.1				Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23	
Disalicylidenepropanediamin	Total	50	1	0.05	0.1	µg/L	50	0	100	50 - 150% PASS	5 30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY % LIMITS	PRECISION % LIMITS	QA CODEc
Sample ID: 103960-B1		QAQC Procedural Blank		Matrix: BlankMatrix		Sampled:		Received:			
		Method: EPA 625.1		Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23			
(d10-Acenaphthene)	Total	105	1			% Recovery	100	105	27 - 133%	PASS	
(d10-Phenanthrene)	Total	102	1			% Recovery	100	102	43 - 129%	PASS	
(d12-Chrysene)	Total	106	1			% Recovery	100	106	52 - 144%	PASS	
(d12-Perylene)	Total	105	1			% Recovery	100	105	36 - 161%	PASS	
(d8-Naphthalene)	Total	99	1			% Recovery	100	99	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 LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODEc
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 LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODEc
									LIMITS	LIMITS	
Sample ID: 103960-BS1		QAQC Procedural Blank		Matrix: BlankMatrix		Sampled:		Received:			
		Method: EPA 625.1		Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23			
(d10-Acenaphthene)	Total	101	1			% Recovery	100	0	101	27 - 133%	PASS
(d10-Phenanthrene)	Total	100	1			% Recovery	100	0	100	43 - 129%	PASS
(d12-Chrysene)	Total	106	1			% Recovery	100	0	106	52 - 144%	PASS
(d12-Perylene)	Total	108	1			% Recovery	100	0	108	36 - 161%	PASS
(d8-Naphthalene)	Total	96	1			% Recovery	100	0	96	25 - 125%	PASS
1-Methylnaphthalene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	31 - 128%	PASS
1-Methylphenanthrene	Total	0.555	1	0.001	0.005	µg/L	0.5	0	111	66 - 127%	PASS
2,3,5-Trimethylnaphthalene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	55 - 122%	PASS
2,6-Dimethylnaphthalene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	48 - 120%	PASS
2-Methylnaphthalene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	47 - 130%	PASS
Acenaphthene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	53 - 131%	PASS
Acenaphthylene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	43 - 140%	PASS
Anthracene	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	58 - 135%	PASS
Benz[a]anthracene	Total	0.541	1	0.001	0.005	µg/L	0.5	0	108	55 - 145%	PASS
Benzo[a]pyrene	Total	0.538	1	0.001	0.005	µg/L	0.5	0	108	51 - 143%	PASS
Benzo[b]fluoranthene	Total	0.58	1	0.001	0.005	µg/L	0.5	0	116	46 - 165%	PASS
Benzo[e]pyrene	Total	0.565	1	0.001	0.005	µg/L	0.5	0	113	42 - 152%	PASS
Benzo[g,h,i]perylene	Total	0.933	1	0.001	0.005	µg/L	1	0	93	63 - 133%	PASS
Benzo[k]fluoranthene	Total	0.578	1	0.001	0.005	µg/L	0.5	0	116	56 - 145%	PASS
Biphenyl	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	56 - 119%	PASS
Chrysene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	56 - 141%	PASS
Dibenz[a,h]anthracene	Total	0.941	1	0.001	0.005	µg/L	1	0	94	55 - 150%	PASS
Dibenzo[a,l]pyrene	Total	0.732	1	0.001	0.005	µg/L	0.5	0	146	50 - 150%	PASS
Dibenzothiophene	Total	0.491	1	0.001	0.005	µg/L	0.5	0	98	46 - 126%	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	0.545	1	0.001	0.005	µg/L	0.5	0	109	60 - 146%	PASS		
Fluorene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.88	1	0.001	0.005	µg/L	1	0	88	50 - 151%	PASS		
Naphthalene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	41 - 126%	PASS		
Perylene	Total	0.5	1	0.001	0.005	µg/L	0.5	0	100	48 - 141%	PASS		
Phenanthrene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	67 - 127%	PASS		
Pyrene	Total	0.542	1	0.001	0.005	µg/L	0.5	0	108	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODEc
									LIMITS	LIMITS	
Sample ID: 103960-BS2		QAQC Procedural Blank		Matrix: BlankMatrix		Sampled:		Received:			
		Method: EPA 625.1		Batch ID: O-40118		Prepared: 27-Jan-23		Analyzed: 18-Feb-23			
(d10-Acenaphthene)	Total	99	1			% Recovery	100	0	99	27 - 133% PASS	2 30 PASS
(d10-Phenanthrene)	Total	101	1			% Recovery	100	0	101	43 - 129% PASS	1 30 PASS
(d12-Chrysene)	Total	107	1			% Recovery	100	0	107	52 - 144% PASS	1 30 PASS
(d12-Perylene)	Total	107	1			% Recovery	100	0	107	36 - 161% PASS	1 30 PASS
(d8-Naphthalene)	Total	95	1			% Recovery	100	0	95	25 - 125% PASS	1 30 PASS
1-Methylnaphthalene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	31 - 128% PASS	0 30 PASS
1-Methylphenanthrene	Total	0.54	1	0.001	0.005	µg/L	0.5	0	108	66 - 127% PASS	3 30 PASS
2,3,5-Trimethylnaphthalene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	55 - 122% PASS	2 30 PASS
2,6-Dimethylnaphthalene	Total	0.527	1	0.001	0.005	µg/L	0.5	0	105	48 - 120% PASS	1 30 PASS
2-Methylnaphthalene	Total	0.494	1	0.001	0.005	µg/L	0.5	0	99	47 - 130% PASS	2 30 PASS
Acenaphthene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	53 - 131% PASS	0 30 PASS
Acenaphthylene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	43 - 140% PASS	3 30 PASS
Anthracene	Total	0.501	1	0.001	0.005	µg/L	0.5	0	100	58 - 135% PASS	1 30 PASS
Benz[a]anthracene	Total	0.545	1	0.001	0.005	µg/L	0.5	0	109	55 - 145% PASS	1 30 PASS
Benzo[a]pyrene	Total	0.539	1	0.001	0.005	µg/L	0.5	0	108	51 - 143% PASS	0 30 PASS
Benzo[b]fluoranthene	Total	0.563	1	0.001	0.005	µg/L	0.5	0	113	46 - 165% PASS	3 30 PASS
Benzo[e]pyrene	Total	0.565	1	0.001	0.005	µg/L	0.5	0	113	42 - 152% PASS	0 30 PASS
Benzo[g,h,i]perylene	Total	0.928	1	0.001	0.005	µg/L	1	0	93	63 - 133% PASS	0 30 PASS
Benzo[k]fluoranthene	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	56 - 145% PASS	9 30 PASS
Biphenyl	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	56 - 119% PASS	2 30 PASS
Chrysene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	56 - 141% PASS	4 30 PASS
Dibenz[a,h]anthracene	Total	0.873	1	0.001	0.005	µg/L	1	0	87	55 - 150% PASS	8 30 PASS
Dibenzo[a,l]pyrene	Total	0.749	1	0.001	0.005	µg/L	0.5	0	150	50 - 150% PASS	3 30 PASS
Dibenzothiophene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	46 - 126% PASS	1 30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY			PRECISION			QA CODEc
							LEVEL	RESULT	%	LIMITS		%	LIMITS		
Fluoranthene	Total	0.533	1	0.001	0.005	µg/L	0.5	0	107	60 - 146%	PASS	2	30	PASS	
Fluorene	Total	0.481	1	0.001	0.005	µg/L	0.5	0	96	58 - 131%	PASS	0	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.895	1	0.001	0.005	µg/L	1	0	89	50 - 151%	PASS	2	30	PASS	
Naphthalene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	41 - 126%	PASS	1	30	PASS	
Perylene	Total	0.555	1	0.001	0.005	µg/L	0.5	0	111	48 - 141%	PASS	10	30	PASS	
Phenanthrene	Total	0.482	1	0.001	0.005	µg/L	0.5	0	96	67 - 127%	PASS	3	30	PASS	
Pyrene	Total	0.543	1	0.001	0.005	µg/L	0.5	0	109	54 - 156%	PASS	1	30	PASS	

**TENTATIVELY
IDENTIFIED COMPOUNDS**

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample ID: 103961

Retention Time	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8585	7.2302	1111	Anthracene-D10-	1719-06-8	95
10.7970	1.7411	268	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	87

Concentration estimated using the response for Anthracene-d10

Sample ID: 103962

Retention Time	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8615	7.4603	1111	Anthracene-D10-	1719-06-8	94
10.7976	1.9664	293	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	84
32.5801	0.7899	118	Benzoic acid, 2-ethylhexyl ester	5444-75-7	95

Concentration estimated using the response for Anthracene-d10

Sample ID: 103963

Retention Time	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Quality
35.8655	8.8100	1111	Anthracene-D10	1517-22-2	91
10.7976	2.3824	300	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	87
32.5797	0.8421	106	Benzoic acid, 2-ethylhexyl ester	5444-75-7	95

Concentration estimated using the response for Anthracene-d10

Sample ID: 103964

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
35.8601	7.6670	1111	Anthracene-D10-	1719-06-8	94
10.7980	2.2726	329	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	84
57.3032	1.4572	211	Hexanedioic acid, bis(2-ethylhexyl) ester	103-23-1	95
32.5791	0.8470	123	Benzoic acid, 2-ethylhexyl ester	5444-75-7	95
10.1911	0.7263	105	Cyclopentene, 1,2,3,4,5-pentamethyl-	1000154-28-6	89

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_40118

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
35.8658	6.2344	1111	Anthracene-D10-	1719-06-8	95
10.7990	1.5990	285	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	86

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

Innovative Solutions for Nature



Client Information (Sub Contract Lab)											
Sampler:	Lab PM:	Arada, Rachelle	COC No:	380-37668.1							
Client Contact:	E-Mail:	Rachelle.Arada@eurofins.com	Page:	Page 1 of 1							
Shipping/Receiving:	State of Origin:	Hawaii	Job #:	380-36186-1							
Company: Physis Environmental Laboratories	Accreditations Required (See note) State - Hawaii		Preservation Codes:								
Address: 1904 Wright Circle, 	Due Date Requested: 2/8/2023 TAT Requested (days): 	Analysis Requested			A-HCL B-NaOH C-Zn Acetate D-Nitric Acid E-NH4SO4 F-MeOH G-Archer H-Ascorbic Acid I-Ice J-DI Water K-EDTA L-EDA Other:						
City: Anaheim CA, 92806 Phone:	PO #:				M-Hexane N-Nona O-ASNaO2 P-Na2CO3S Q-Na2SO3 R-Na2S2O3 S-H2SD4 T-TSP Dodecylhydrate U-Acetone V-MCAA W-pH 4.5 Y-Trizma Z-other (specify)						
Email:	WO #:										
Project Name: RED HILL	Project #: 38001111										
Site: Honolulu BWS Sites	SSOM#:										
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab) BT=Tissue, A=bil.	Matrix (Water, Seawater, Overwashbill.)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs		Total Number of containers	Special Instructions/Note:
MOANALUA WELLS (331-223-TP202) (380-36166-1)		1/30/23	09:46		Water	X				2	See Attached Instructions
AIEWA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-36166-2)		1/30/23	10:43		Water	X				2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-36166-3)		1/30/23	10:15		Water	X				2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-36166-4)		1/30/23	11:13		Water	X				2	See Attached Instructions

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

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____
Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____
Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____
Cooler Temperature(s) °C and Other Remarks: _____
Custody Seal Intact: Δ Yes Δ No Custody Seal No.: _____
Custodian Signature: _____

Project Iteration ID: 1407003-375
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111 Job # 380-36166-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

- Initials Received By: AT
- Date Received: 2/2/23
- Time Received: 1100
- Client Name: Eurofins
- Courier Information: (Please circle)
 - ☒ Client
 - ☐ UPS
 - ☐ Area Fast
 - ☐ DRS
 - ☐ FedEx
 - ☐ GSO/GLS
 - ☐ Ontrac
 - ☐ PAMS
 - PHYSIS Driver:
 - Start Time: _____
 - End Time: _____
 - Total Mileage: _____
 - Number of Pickups: _____
- Container Information: (Please put the # of containers or circle none)
 - ☒ Cooler
 - ☐ Styrofoam Cooler
 - ☐ Boxes
 - ☐ None
 - ☐ Carboy(s)
 - ☐ Carboy Trash Can(s)
 - ☐ Carboy Cap(s)
 - ☐ Other _____
- What type of ice was used: (Please circle any that apply)
 - ☒ Wet Ice
 - ☐ Blue Ice
 - ☐ Dry Ice
 - ☐ Water
 - ☐ None
- Randomly Selected Samples Temperature (°C): 10.8
Used I/R Thermometer # 1-2

Inspection Info

- Initials Inspected By: R6H

Sample Integrity Upon Receipt:

- COC(s) included and completely filled out..... ☒ Yes / ☐ No
- All sample containers arrived intact..... ☒ Yes / ☐ No
- All samples listed on COC(s) are present..... ☒ Yes / ☐ No
- Information on containers consistent with information on COC(s)..... ☒ Yes / ☐ No
- Correct containers and volume for all analyses indicated..... ☒ Yes / ☐ No
- All samples received within method holding time..... ☒ Yes / ☐ No
- Correct preservation used for all analyses indicated..... ☐ Yes / ☒ No
- Name of sampler included on COC(s)..... ☐ Yes / ☒ No

Notes:

See temp

Phone: 626-386-1100

Environment Testing

Phone: 626-386-1100

Environment Testing

3/23/2023

Phone: 626-386-1100

Environment Testing

Bottle Order Information

Bottle Order: RUSH RED-HILL WEEKLY
Bottle Order #: 2757
Request From Client: 7/20/2022
Date Order Posted: 7/20/2022 11:12:54AM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: 1/16/2023 11:59:00PM
Lab Project Number: 38001111
PWSID:

Order Completion Information

Creator: Davis Haley
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
4	2	8	Amber Glass 1 liter - Sodium Thiosulfate	Sodium Thiosulfate	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal	625 PAH	
4	4	16	Voa Vial 40ml - SodiumThio w/HCl-dropper	Sodium Thiosulfate	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Normal		
4	2	8	Amber Glass 1 L - NaThiosulfate 8mL HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil	Water	Normal		
4	2	8	Amber Glass 1 Liter- Sodium Sulfite/HCl	Sodium Sulfite w/HCl	525.2_PREC - (MOD) 525plus Plus TICs	Water	Normal		
4	2	8	VOA Vial 40mL - NaThiosulfate/HCL	Sodium Thiosulfate/Hydrochloric Acid	SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL)	Water	Trip Blank		
4	3	12	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 Full List	Water	Normal		
4	3	12	Plastic 250ml - Ammonium Acetate	Ammonium Acetate	533 - All Analytes	Water	Normal		
4	1	4	Plastic 250ml - Reagent Water	None		Water	Field Blank		
4	1	4	Plastic 250ml - Ammonium Acetate	Ammonium Acetate		Water	Field Blank		
4	1	4	Plastic 250ml - Reagent Water	None		Water	Field Blank		
4	1	4	Plastic 250ml - Trizma	Trizma		Water	Field Blank		

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-36166-1

Login Number: 36166

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Ngo, Theodore

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	