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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
525.2, 533, 537.1

JOB NUMBER

380-91826-1

Eurofins Eaton Analytical Pomona

Job Notes

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA TICs

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

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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
⌘	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: RED-HILL

Job ID: 380-91826-1

Job ID: 380-91826-1

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Job Narrative 380-91826-1

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

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

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

Receipt

The samples were received on 4/17/2024 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9°C and 2.8°C.

GC/MS Semi VOA

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

PFAS

Methods EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results. HALAWA WELLS UNITS 1 & 2 P1 (380-91826-4)

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

Detection Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-91826-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-91826-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
PWSID Number: HI0000331

Lab Sample ID: 380-91826-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
PWSID Number: HI0000331

Lab Sample ID: 380-91826-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-91826-5

No Detections.

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-6

No Detections.

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-7

No Detections.

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-8

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-91826-1
 SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-91826-1

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
2,4'-DDD	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
2,4'-DDE	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
2,4'-DDT	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
2-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
4,4'-DDD	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
4,4'-DDE	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
4,4'-DDT	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Acenaphthene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Acenaphthylene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Acetochlor	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Alachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
alpha-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
alpha-Chlordane	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Anthracene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 14:41	1
Atrazine	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Benzo[a]pyrene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 14:41	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 14:41	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 14:41	1
beta-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 14:41	1
Bromacil	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Butachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 14:41	1
Chlorobenzilate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Chloroneb	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Chlorpyrifos	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Chrysene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 14:41	1
delta-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 14:41	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Dieldrin	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 14:41	1
Diethylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 14:41	1
Dimethylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 14:41	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		04/23/24 09:00	04/24/24 14:41	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Endosulfan sulfate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Endrin	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Endrin aldehyde	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
EPTC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Fluoranthene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1

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Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-91826-1

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
gamma-Chlordane	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Heptachlor	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 14:41	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Isophorone	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 14:41	1
Lindane	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 14:41	1
Malathion	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Methoxychlor	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Metolachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Molinate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Naphthalene	<0.29		0.29	ug/L		04/23/24 09:00	04/24/24 14:41	1
Parathion	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Phenanthrene	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 14:41	1
Propachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Pyrene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Simazine	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Terbacil	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Terbutylazine	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1
Thiobencarb	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 14:41	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 14:41	1
trans-Nonachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 14:41	1
Trifluralin	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 14:41	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	04/23/24 09:00	04/24/24 14:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	98		70 - 130	04/23/24 09:00	04/24/24 14:41	1
Perylene-d12	93		70 - 130	04/23/24 09:00	04/24/24 14:41	1
Triphenylphosphate	104		70 - 130	04/23/24 09:00	04/24/24 14:41	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1

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Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-91826-1

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

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
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:38	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C6 PFDA	102		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C5 PFHxA	108		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C4 PFHpA	106		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C8 PFOA	105		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C9 PFNA	105		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C7 PFUnA	103		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C2 PFDoA	102		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C4 PFBA	107		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C5 PFPeA	104		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C3 PFBS	107		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C3 PFHxS	106		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C8 PFOS	102		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C2-4:2-FTS	138		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C2-6:2-FTS	122		50 - 200			04/18/24 04:31	04/18/24 19:38	1
13C2-8:2-FTS	109		50 - 200			04/18/24 04:31	04/18/24 19:38	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-91826-1

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	117		70 - 130			04/18/24 08:16	04/18/24 18:47	1
13C2 PFHxA	117		70 - 130			04/18/24 08:16	04/18/24 18:47	1
13C2 PFDA	107		70 - 130			04/18/24 08:16	04/18/24 18:47	1
13C3-GenX	108		70 - 130			04/18/24 08:16	04/18/24 18:47	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-2

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
2,4'-DDD	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
2,4'-DDE	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
2,4'-DDT	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
2-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
4,4'-DDD	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
4,4'-DDE	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
4,4'-DDT	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Acenaphthene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Acenaphthylene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Acetochlor	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Alachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
alpha-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
alpha-Chlordane	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Anthracene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:01	1
Atrazine	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Benzo[a]pyrene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:01	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:01	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-2

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:01	1
beta-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 15:01	1
Bromacil	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Butachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:01	1
Chlorobenzilate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Chloroneb	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Chlorpyrifos	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Chrysene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:01	1
delta-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 15:01	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Dieldrin	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:01	1
Diethylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:01	1
Dimethylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:01	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		04/23/24 09:00	04/24/24 15:01	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Endosulfan sulfate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Endrin	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Endrin aldehyde	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
EPTC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Fluoranthene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Fluorene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
gamma-Chlordane	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Heptachlor	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:01	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Isophorone	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:01	1
Lindane	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:01	1
Malathion	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Methoxychlor	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Metolachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Molinate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Naphthalene	<0.29		0.29	ug/L		04/23/24 09:00	04/24/24 15:01	1
Parathion	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Phenanthrene	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:01	1
Propachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Pyrene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Simazine	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Terbacil	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1
Terbutylazine	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-2

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:01	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:01	1
trans-Nonachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:01	1
Trifluralin	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:01	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	04/23/24 09:00	04/24/24 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	91		70 - 130	04/23/24 09:00	04/24/24 15:01	1
Perylene-d12	94		70 - 130	04/23/24 09:00	04/24/24 15:01	1
Triphenylphosphate	99		70 - 130	04/23/24 09:00	04/24/24 15:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:04	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-2

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	78		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C6 PFDA	88		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C5 PFHxA	85		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C4 PFHpA	83		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C8 PFOA	86		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C9 PFNA	88		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C7 PFUnA	91		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C2 PFDoA	92		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C4 PFBA	89		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C5 PFPeA	93		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C3 PFBS	91		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C3 PFHxS	90		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C8 PFOS	91		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C2-4:2-FTS	128		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C2-6:2-FTS	108		50 - 200	04/18/24 04:31	04/18/24 21:04	1
13C2-8:2-FTS	99		50 - 200	04/18/24 04:31	04/18/24 21:04	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	123		70 - 130	04/18/24 08:16	04/18/24 18:56	1
13C2 PFHxA	111		70 - 130	04/18/24 08:16	04/18/24 18:56	1
13C2 PFDA	113		70 - 130	04/18/24 08:16	04/18/24 18:56	1
13C3-GenX	107		70 - 130	04/18/24 08:16	04/18/24 18:56	1

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-3

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
2,4'-DDD	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
2,4'-DDE	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
2,4'-DDT	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
2-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
4,4'-DDD	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
4,4'-DDE	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
4,4'-DDT	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Acenaphthene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Acenaphthylene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Acetochlor	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Alachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
alpha-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
alpha-Chlordane	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Anthracene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:20	1
Atrazine	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Benzo[a]pyrene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:20	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:20	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:20	1
beta-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 15:20	1
Bromacil	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Butachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:20	1
Chlorobenzilate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Chloroneb	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Chlorpyrifos	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Chrysene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:20	1
delta-BHC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 15:20	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Dieldrin	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:20	1
Diethylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:20	1
Dimethylphthalate	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:20	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		04/23/24 09:00	04/24/24 15:20	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Endosulfan sulfate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Endrin	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Endrin aldehyde	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
EPTC	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Fluoranthene	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-3

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
gamma-Chlordane	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Heptachlor	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:20	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Isophorone	<0.49		0.49	ug/L		04/23/24 09:00	04/24/24 15:20	1
Lindane	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:20	1
Malathion	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Methoxychlor	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Metolachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Molinate	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Naphthalene	<0.29		0.29	ug/L		04/23/24 09:00	04/24/24 15:20	1
Parathion	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Phenanthrene	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:20	1
Propachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Pyrene	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Simazine	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Terbacil	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Terbutylazine	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1
Thiobencarb	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:20	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:20	1
trans-Nonachlor	<0.049		0.049	ug/L		04/23/24 09:00	04/24/24 15:20	1
Trifluralin	<0.097		0.097	ug/L		04/23/24 09:00	04/24/24 15:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L			N/A	04/23/24 09:00	04/24/24 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	92		70 - 130	04/23/24 09:00	04/24/24 15:20	1
Perylene-d12	92		70 - 130	04/23/24 09:00	04/24/24 15:20	1
Triphenylphosphate	96		70 - 130	04/23/24 09:00	04/24/24 15:20	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafiuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-3

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

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
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:15	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C6 PFDA	96		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C5 PFHxA	105		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C4 PFHpA	100		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C8 PFOA	101		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C9 PFNA	100		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C7 PFUnA	97		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C2 PFDoA	94		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C4 PFBA	103		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C5 PFPeA	103		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C3 PFBS	104		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C3 PFHxS	103		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C8 PFOS	102		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C2-4:2-FTS	131		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C2-6:2-FTS	120		50 - 200			04/18/24 04:31	04/18/24 21:15	1
13C2-8:2-FTS	102		50 - 200			04/18/24 04:31	04/18/24 21:15	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-3

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130			04/18/24 08:16	04/18/24 19:06	1
13C2 PFHxA	115		70 - 130			04/18/24 08:16	04/18/24 19:06	1
13C2 PFDA	100		70 - 130			04/18/24 08:16	04/18/24 19:06	1
13C3-GenX	106		70 - 130			04/18/24 08:16	04/18/24 19:06	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-4

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
2,4'-DDD	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
2,4'-DDE	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
2,4'-DDT	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
2,4-Dinitrotoluene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
2,6-Dinitrotoluene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
2-Methylnaphthalene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
4,4'-DDD	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
4,4'-DDE	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
4,4'-DDT	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Acenaphthene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Acenaphthylene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Acetochlor	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Alachlor	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
alpha-BHC	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
alpha-Chlordane	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Anthracene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:40	1
Atrazine	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Benz(a)anthracene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Benzo[a]pyrene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:40	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:40	1
Benzo[g,h,i]perylene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-4

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[k]fluoranthene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:40	1
beta-BHC	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 15:40	1
Bromacil	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Butachlor	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Butylbenzylphthalate	<0.48		0.48	ug/L		04/23/24 09:00	04/24/24 15:40	1
Chlorobenzilate	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Chloroneb	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Chlorothalonil (Draconil, Bravo)	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Chlorpyrifos	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Chrysene	<0.019		0.019	ug/L		04/23/24 09:00	04/24/24 15:40	1
delta-BHC	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		04/23/24 09:00	04/24/24 15:40	1
Dibenz(a,h)anthracene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Diclorvos (DDVP)	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Dieldrin	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:40	1
Diethylphthalate	<0.48		0.48	ug/L		04/23/24 09:00	04/24/24 15:40	1
Dimethylphthalate	<0.48		0.48	ug/L		04/23/24 09:00	04/24/24 15:40	1
Di-n-butyl phthalate	<0.96		0.96	ug/L		04/23/24 09:00	04/24/24 15:40	1
Di-n-octyl phthalate	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Endosulfan I (Alpha)	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Endosulfan II (Beta)	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Endosulfan sulfate	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Endrin	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Endrin aldehyde	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
EPTC	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Fluoranthene	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Fluorene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
gamma-Chlordane	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Heptachlor	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:40	1
Heptachlor epoxide (isomer B)	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Hexachlorobenzene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Hexachlorocyclopentadiene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Indeno[1,2,3-cd]pyrene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Isophorone	<0.48		0.48	ug/L		04/23/24 09:00	04/24/24 15:40	1
Lindane	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:40	1
Malathion	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Methoxychlor	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Metolachlor	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Molinate	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Naphthalene	<0.29		0.29	ug/L		04/23/24 09:00	04/24/24 15:40	1
Parathion	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Pendimethalin (Penoxaline)	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Phenanthrene	<0.039		0.039	ug/L		04/23/24 09:00	04/24/24 15:40	1
Propachlor	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Pyrene	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Simazine	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Terbacil	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1
Terbutylazine	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-4

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Thiobencarb	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:40	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		04/23/24 09:00	04/24/24 15:40	1
trans-Nonachlor	<0.048		0.048	ug/L		04/23/24 09:00	04/24/24 15:40	1
Trifluralin	<0.096		0.096	ug/L		04/23/24 09:00	04/24/24 15:40	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	0.84	T J	ug/L		2.26	N/A	04/23/24 09:00	04/24/24 15:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	99		70 - 130	04/23/24 09:00	04/24/24 15:40	1
Perylene-d12	96		70 - 130	04/23/24 09:00	04/24/24 15:40	1
Triphenylphosphate	103		70 - 130	04/23/24 09:00	04/24/24 15:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:25	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-4

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

PWSID Number: HI0000331

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C6 PFDA	101		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C5 PFHxA	103		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C4 PFHpA	104		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C8 PFOA	104		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C9 PFNA	102		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C7 PFUnA	101		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C2 PFDoA	100		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C4 PFBA	106		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C5 PFPeA	104		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C3 PFBS	103		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C3 PFHxS	102		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C8 PFOS	103		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C2-4:2-FTS	136		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C2-6:2-FTS	121		50 - 200	04/18/24 04:31	04/18/24 21:25	1
13C2-8:2-FTS	104		50 - 200	04/18/24 04:31	04/18/24 21:25	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	120		70 - 130	04/18/24 08:16	04/18/24 19:26	1
13C2 PFHxA	115		70 - 130	04/18/24 08:16	04/18/24 19:26	1
13C2 PFDA	107		70 - 130	04/18/24 08:16	04/18/24 19:26	1
13C3-GenX	106		70 - 130	04/18/24 08:16	04/18/24 19:26	1

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-91826-5

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

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)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:36	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C6 PFDA	98		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C5 PFHxA	101		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C4 PFHpA	101		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C8 PFOA	102		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C9 PFNA	103		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C7 PFUnA	100		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C2 PFDoA	102		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C4 PFBA	106		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C5 PFPeA	103		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C3 PFBS	105		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C3 PFHxS	105		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C8 PFOS	102		50 - 200	04/18/24 04:31	04/18/24 21:36	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-91826-5

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	128		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C2-6:2-FTS	121		50 - 200	04/18/24 04:31	04/18/24 21:36	1
13C2-8:2-FTS	103		50 - 200	04/18/24 04:31	04/18/24 21:36	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:37	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	117		70 - 130	04/18/24 08:16	04/18/24 19:37	1		
13C2 PFHxA	111		70 - 130	04/18/24 08:16	04/18/24 19:37	1		
13C2 PFDA	109		70 - 130	04/18/24 08:16	04/18/24 19:37	1		
13C3-GenX	104		70 - 130	04/18/24 08:16	04/18/24 19:37	1		

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-6

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-6

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 21:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C6 PFDA	98		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C5 PFHxA	104		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C4 PFHpA	102		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C8 PFOA	102		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C9 PFNA	101		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C7 PFUnA	99		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C2 PFDoA	99		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C4 PFBA	102		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C5 PFPeA	99		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C3 PFBS	104		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C3 PFHxS	104		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C8 PFOS	103		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C2-4:2-FTS	134		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C2-6:2-FTS	115		50 - 200	04/18/24 04:31	04/18/24 21:57	1
13C2-8:2-FTS	106		50 - 200	04/18/24 04:31	04/18/24 21:57	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-6

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	121		70 - 130			04/18/24 08:16	04/18/24 19:46	1
13C2 PFHxA	108		70 - 130			04/18/24 08:16	04/18/24 19:46	1
13C2 PFDA	106		70 - 130			04/18/24 08:16	04/18/24 19:46	1
13C3-GenX	102		70 - 130			04/18/24 08:16	04/18/24 19:46	1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-7

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

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)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-7

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

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)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:08	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C6 PFDA	99		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C5 PFHxA	102		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C4 PFHpA	102		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C8 PFOA	104		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C9 PFNA	102		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C7 PFUnA	101		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C2 PFDoA	99		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C4 PFBA	105		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C5 PFPeA	102		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C3 PFBS	100		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C3 PFHxS	103		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C8 PFOS	101		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C2-4:2-FTS	132		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C2-6:2-FTS	119		50 - 200	04/18/24 04:31	04/18/24 22:08	1
13C2-8:2-FTS	104		50 - 200	04/18/24 04:31	04/18/24 22:08	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-7

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 19:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	120		70 - 130			04/18/24 08:16	04/18/24 19:55	1
13C2 PFHxA	117		70 - 130			04/18/24 08:16	04/18/24 19:55	1
13C2 PFDA	110		70 - 130			04/18/24 08:16	04/18/24 19:55	1
13C3-GenX	111		70 - 130			04/18/24 08:16	04/18/24 19:55	1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-8

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

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)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-8

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/24 04:31	04/18/24 22:19	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C6 PFDA	97		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C5 PFHxA	99		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C4 PFHpA	101		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C8 PFOA	101		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C9 PFNA	100		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C7 PFUnA	98		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C2 PFDoA	98		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C4 PFBA	102		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C5 PFPeA	96		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C3 PFBS	103		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C3 PFHxS	105		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C8 PFOS	101		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C2-4:2-FTS	129		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C2-6:2-FTS	121		50 - 200			04/18/24 04:31	04/18/24 22:19	1
13C2-8:2-FTS	103		50 - 200			04/18/24 04:31	04/18/24 22:19	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)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-91826-1
 SDG: 525.2, 533, 537.1

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-8

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/24 08:16	04/18/24 20:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	125		70 - 130			04/18/24 08:16	04/18/24 20:05	1
13C2 PFHxA	114		70 - 130			04/18/24 08:16	04/18/24 20:05	1
13C2 PFDA	117		70 - 130			04/18/24 08:16	04/18/24 20:05	1
13C3-GenX	115		70 - 130			04/18/24 08:16	04/18/24 20:05	1

Action Limit Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-91826-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2		0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6		0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400		0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2		0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4		0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2		0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40		0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-91826-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL		RL	Method	Prep Type
				Limit				
Alachlor	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2		0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6		0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400		0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2		0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4		0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2		0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1		0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50		0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2		0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40		0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4		0.049	525.2	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
PWSID Number: HI0000331

Lab Sample ID: 380-91826-3

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	<0.049		ug/L	2		0.049	525.2	Total/NA
Atrazine	<0.049		ug/L	3		0.049	525.2	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
(Continued)
PWSID Number: HI0000331

Lab Sample ID: 380-91826-3

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			
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.097		ug/L	2	0.097	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.049		ug/L	0.2	0.049	525.2	Total/NA
Hexachlorobenzene	<0.049		ug/L	1	0.049	525.2	Total/NA
Hexachlorocyclopentadiene	<0.049		ug/L	50	0.049	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.097		ug/L	40	0.097	525.2	Total/NA
Simazine	<0.049		ug/L	4	0.049	525.2	Total/NA

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
PWSID Number: HI0000331

Lab Sample ID: 380-91826-4

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	<0.048		ug/L	2	0.048	525.2	Total/NA
Atrazine	<0.048		ug/L	3	0.048	525.2	Total/NA
Benzo[a]pyrene	<0.019		ug/L	0.2	0.019	525.2	Total/NA
Bis(2-ethylhexyl) phthalate	<0.58		ug/L	6	0.58	525.2	Total/NA
Di(2-ethylhexyl)adipate	<0.58		ug/L	400	0.58	525.2	Total/NA
Endrin	<0.096		ug/L	2	0.096	525.2	Total/NA
Heptachlor	<0.039		ug/L	0.4	0.039	525.2	Total/NA
Heptachlor epoxide (isomer B)	<0.048		ug/L	0.2	0.048	525.2	Total/NA
Hexachlorobenzene	<0.048		ug/L	1	0.048	525.2	Total/NA
Hexachlorocyclopentadiene	<0.048		ug/L	50	0.048	525.2	Total/NA
Lindane	<0.039		ug/L	0.2	0.039	525.2	Total/NA
Methoxychlor	<0.096		ug/L	40	0.096	525.2	Total/NA
Simazine	<0.048		ug/L	4	0.048	525.2	Total/NA

Surrogate Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		2NMX (70-130)	PRY (70-130)	TPP (70-130)
380-91563-B-6-A MS	Matrix Spike	97	95	106
380-91563-B-6-B MSD	Matrix Spike Duplicate	97	99	110
380-91826-1	MOANALUA WELLS	98	93	104
380-91826-2	AIEA GULCH WELLS PUMP 2	91	94	99
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	92	92	96
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	99	96	103
380-91460-AI-1-A DU	Duplicate	99	90	112
LCS 380-87129/23-A	Lab Control Sample	97	96	106
MB 380-87129/21-A	Method Blank	93	96	108
MRL 380-87129/22-A	Lab Control Sample	94	95	102

Surrogate Legend
 2NMX = 2-Nitro-m-xylene
 PRY = Perylene-d12
 TPP = Triphenylphosphate

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)
380-91826-1	MOANALUA WELLS	117	117	107	108
380-91826-2	AIEA GULCH WELLS PUMP 2	123	111	113	107
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	116	115	100	106
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	120	115	107	106
380-91826-5	FB MOANALUA WELLS	117	111	109	104
380-91826-6	FB AIEA GULCH WELLS PUMP 2	121	108	106	102
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	120	117	110	111
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	125	114	117	115
380-91839-B-1-A MS	Matrix Spike	114	115	107	111
380-91839-C-1-A MSD	Matrix Spike Duplicate	117	108	108	103
LCS 380-86507/23-A	Lab Control Sample	114	105	106	102
MBL 380-86507/21-A	Method Blank	105	107	104	102
MRL 380-86507/22-A	Lab Control Sample	112	103	105	100

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

Isotope Dilution Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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)	PFDoA (50-200)
380-91826-1	MOANALUA WELLS	100	102	108	106	105	105	103	102
380-91826-1 MS	MOANALUA WELLS	102	99	103	102	103	102	104	105
380-91826-1 MSD	MOANALUA WELLS	103	103	104	103	103	104	102	102
380-91826-2	AIEA GULCH WELLS PUMP 2	78	88	85	83	86	88	91	92
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	95	96	105	100	101	100	97	94
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	95	101	103	104	104	102	101	100
380-91826-5	FB MOANALUA WELLS	95	98	101	101	102	103	100	102
380-91826-6	FB AIEA GULCH WELLS PUMP 2	92	98	104	102	102	101	99	99
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	92	99	102	102	104	102	101	99
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	93	97	99	101	101	100	98	98
LCS 380-86497/22-A	Lab Control Sample	98	98	99	100	99	100	100	99
MBL 380-86497/20-A	Method Blank	80	95	91	91	96	94	95	95
MRL 380-86497/21-A	Lab Control Sample	88	93	95	96	96	97	96	96

		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)
380-91826-1	MOANALUA WELLS	107	104	107	106	102	138	122	109
380-91826-1 MS	MOANALUA WELLS	105	105	105	105	102	126	121	109
380-91826-1 MSD	MOANALUA WELLS	106	108	107	103	103	125	121	108
380-91826-2	AIEA GULCH WELLS PUMP 2	89	93	91	90	91	128	108	99
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	103	103	104	103	102	131	120	102
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	106	104	103	102	103	136	121	104
380-91826-5	FB MOANALUA WELLS	106	103	105	105	102	128	121	103
380-91826-6	FB AIEA GULCH WELLS PUMP 2	102	99	104	104	103	134	115	106
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	105	102	100	103	101	132	119	104
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	102	96	103	105	101	129	121	103
LCS 380-86497/22-A	Lab Control Sample	102	100	106	103	101	123	114	103
MBL 380-86497/20-A	Method Blank	94	91	103	106	102	131	122	106
MRL 380-86497/21-A	Lab Control Sample	100	96	103	102	100	126	119	102

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 PFDoA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS

Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

C3PFHS = 13C3 PFHxS

C8PFOS = 13C8 PFOS

42FTS = 13C2-4:2-FTS

62FTS = 13C2-6:2-FTS

82FTS = 13C2-8:2-FTS

Job ID: 380-91826-1

SDG: 525.2, 533, 537.1

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QC Sample Results

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

Job ID: 380-91826-1
 SDG: 525.2, 533, 537.1

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

Lab Sample ID: MB 380-87129/21-A
 Matrix: Water
 Analysis Batch: 87393

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 87129

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
2,4'-DDD	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
2,4'-DDE	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
2,4'-DDT	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
2,4-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
2,6-Dinitrotoluene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
2-Methylnaphthalene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
4,4'-DDD	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
4,4'-DDE	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
4,4'-DDT	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Acenaphthene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Acenaphthylene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Acetochlor	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Alachlor	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
alpha-BHC	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
alpha-Chlordane	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Anthracene	<0.019		0.019	ug/L		04/23/24 07:45	04/24/24 11:22	1
Atrazine	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Benz(a)anthracene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Benzo[a]pyrene	<0.019		0.019	ug/L		04/23/24 07:45	04/24/24 11:22	1
Benzo[b]fluoranthene	<0.019		0.019	ug/L		04/23/24 07:45	04/24/24 11:22	1
Benzo[g,h,i]perylene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Benzo[k]fluoranthene	<0.019		0.019	ug/L		04/23/24 07:45	04/24/24 11:22	1
beta-BHC	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Bis(2-ethylhexyl) phthalate	<0.58		0.58	ug/L		04/23/24 07:45	04/24/24 11:22	1
Bromacil	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Butachlor	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Butylbenzylphthalate	<0.49		0.49	ug/L		04/23/24 07:45	04/24/24 11:22	1
Chlorobenzilate	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Chloroneb	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Chlorothalonil (Draconil, Bravo)	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Chlorpyrifos	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Chrysene	<0.019		0.019	ug/L		04/23/24 07:45	04/24/24 11:22	1
delta-BHC	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Di(2-ethylhexyl)adipate	<0.58		0.58	ug/L		04/23/24 07:45	04/24/24 11:22	1
Dibenz(a,h)anthracene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Diclorvos (DDVP)	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Dieldrin	<0.19		0.19	ug/L		04/23/24 07:45	04/24/24 11:22	1
Diethylphthalate	<0.49		0.49	ug/L		04/23/24 07:45	04/24/24 11:22	1
Dimethylphthalate	<0.49		0.49	ug/L		04/23/24 07:45	04/24/24 11:22	1
Di-n-butyl phthalate	<0.97		0.97	ug/L		04/23/24 07:45	04/24/24 11:22	1
Di-n-octyl phthalate	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Endosulfan I (Alpha)	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Endosulfan II (Beta)	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Endosulfan sulfate	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Endrin	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Endrin aldehyde	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
EPTC	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MB 380-87129/21-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 87129

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Fluorene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
gamma-Chlordane	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Heptachlor	<0.039		0.039	ug/L		04/23/24 07:45	04/24/24 11:22	1
Heptachlor epoxide (isomer B)	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Hexachlorobenzene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Hexachlorocyclopentadiene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Indeno[1,2,3-cd]pyrene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Isophorone	<0.49		0.49	ug/L		04/23/24 07:45	04/24/24 11:22	1
Lindane	<0.039		0.039	ug/L		04/23/24 07:45	04/24/24 11:22	1
Malathion	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Methoxychlor	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Metolachlor	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Molinate	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Naphthalene	<0.29		0.29	ug/L		04/23/24 07:45	04/24/24 11:22	1
Parathion	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Pendimethalin (Penoxaline)	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Phenanthrene	<0.039		0.039	ug/L		04/23/24 07:45	04/24/24 11:22	1
Propachlor	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Pyrene	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Simazine	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Terbacil	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Terbutylazine	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1
Thiobencarb	<0.19		0.19	ug/L		04/23/24 07:45	04/24/24 11:22	1
Total Permethrin (mixed isomers)	<0.19		0.19	ug/L		04/23/24 07:45	04/24/24 11:22	1
trans-Nonachlor	<0.049		0.049	ug/L		04/23/24 07:45	04/24/24 11:22	1
Trifluralin	<0.097		0.097	ug/L		04/23/24 07:45	04/24/24 11:22	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Decane	1.56	T J N	ug/L		2.49	124-18-5	04/23/24 07:45	04/24/24 11:22	1
9-Octadecenamamide, (Z)-	0.496	T J N	ug/L		7.72	301-02-0	04/23/24 07:45	04/24/24 11:22	1
Unknown	0.536	T J	ug/L		11.15	N/A	04/23/24 07:45	04/24/24 11:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Nitro-m-xylene	93		70 - 130	04/23/24 07:45	04/24/24 11:22	1
Perylene-d12	96		70 - 130	04/23/24 07:45	04/24/24 11:22	1
Triphenylphosphate	108		70 - 130	04/23/24 07:45	04/24/24 11:22	1

Lab Sample ID: LCS 380-87129/23-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	1.96	1.98		ug/L		101	70 - 130
2,4'-DDD	1.96	2.15		ug/L		110	70 - 130
2,4'-DDE	1.96	2.03		ug/L		104	70 - 130
2,4'-DDT	1.96	2.22		ug/L		114	70 - 130
2,4-Dinitrotoluene	1.96	1.83		ug/L		94	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-87129/23-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,6-Dinitrotoluene	1.96	1.81		ug/L		93	70 - 130
2-Methylnaphthalene	1.96	2.00		ug/L		102	70 - 130
4,4'-DDD	1.96	2.14		ug/L		109	70 - 130
4,4'-DDE	1.96	1.99		ug/L		102	70 - 130
4,4'-DDT	1.96	2.03		ug/L		104	70 - 130
Acenaphthene	1.96	1.89		ug/L		97	70 - 130
Acenaphthylene	1.96	1.95		ug/L		100	70 - 130
Acetochlor	1.96	2.08		ug/L		106	70 - 130
Alachlor	1.96	2.03		ug/L		104	70 - 130
alpha-BHC	1.96	1.98		ug/L		101	70 - 130
alpha-Chlordane	1.96	1.87		ug/L		96	70 - 130
Anthracene	1.96	1.77		ug/L		90	70 - 130
Atrazine	1.96	2.20		ug/L		113	70 - 130
Benz(a)anthracene	1.96	1.89		ug/L		97	70 - 130
Benzo[a]pyrene	1.96	1.85		ug/L		95	70 - 130
Benzo[b]fluoranthene	1.96	2.06		ug/L		105	70 - 130
Benzo[g,h,i]perylene	1.96	2.02		ug/L		103	70 - 130
Benzo[k]fluoranthene	1.96	2.04		ug/L		104	70 - 130
beta-BHC	1.96	1.98		ug/L		101	70 - 130
Bis(2-ethylhexyl) phthalate	1.96	1.88		ug/L		96	70 - 130
Bromacil	1.96	2.37		ug/L		121	70 - 130
Butachlor	1.96	2.20		ug/L		113	70 - 130
Butylbenzylphthalate	1.96	2.26		ug/L		116	70 - 130
Chlorobenzilate	1.96	1.97		ug/L		101	70 - 130
Chloroneb	1.96	2.03		ug/L		104	70 - 130
Chlorothalonil (Draconil, Bravo)	1.96	2.21		ug/L		113	70 - 130
Chlorpyrifos	1.96	2.14		ug/L		109	70 - 130
Chrysene	1.96	2.02		ug/L		104	70 - 130
delta-BHC	1.96	1.99		ug/L		102	70 - 130
Di(2-ethylhexyl)adipate	1.96	2.21		ug/L		113	70 - 130
Dibenz(a,h)anthracene	1.96	2.08		ug/L		106	70 - 130
Diclorvos (DDVP)	1.96	2.16		ug/L		111	70 - 130
Dieldrin	1.96	1.95		ug/L		100	70 - 130
Diethylphthalate	1.96	2.01		ug/L		103	70 - 130
Dimethylphthalate	1.96	2.03		ug/L		104	70 - 130
Di-n-butyl phthalate	3.91	4.35		ug/L		111	70 - 130
Di-n-octyl phthalate	1.96	1.61		ug/L		82	70 - 130
Endosulfan I (Alpha)	1.96	1.98		ug/L		101	70 - 130
Endosulfan II (Beta)	1.96	2.11		ug/L		108	70 - 130
Endosulfan sulfate	1.96	2.15		ug/L		110	70 - 130
Endrin	1.96	2.11		ug/L		108	70 - 130
Endrin aldehyde	1.96	1.91		ug/L		98	60 - 130
EPTC	1.96	2.27		ug/L		116	70 - 130
Fluoranthene	1.96	2.06		ug/L		105	70 - 130
Fluorene	1.96	2.07		ug/L		106	70 - 130
gamma-Chlordane	1.96	1.97		ug/L		101	70 - 130
Heptachlor	1.96	2.12		ug/L		108	70 - 130
Heptachlor epoxide (isomer B)	1.96	1.94		ug/L		99	70 - 130
Hexachlorobenzene	1.96	1.92		ug/L		98	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-87129/23-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorocyclopentadiene	1.96	2.04		ug/L		104	70 - 130
Indeno[1,2,3-cd]pyrene	1.96	1.98		ug/L		101	70 - 130
Isophorone	1.96	1.94		ug/L		99	70 - 130
Lindane	1.96	2.03		ug/L		104	70 - 130
Malathion	1.96	2.16		ug/L		111	70 - 130
Methoxychlor	1.96	2.07		ug/L		106	70 - 130
Metolachlor	1.96	2.10		ug/L		107	70 - 130
Molinate	1.96	2.05		ug/L		105	70 - 130
Naphthalene	1.96	1.83		ug/L		93	70 - 130
Parathion	1.96	2.04		ug/L		104	70 - 130
Pendimethalin (Penoxaline)	1.96	1.92		ug/L		98	70 - 130
Phenanthrene	1.96	1.89		ug/L		97	70 - 130
Propachlor	1.96	2.04		ug/L		104	70 - 130
Pyrene	1.96	2.09		ug/L		107	70 - 130
Simazine	1.96	2.25		ug/L		115	70 - 130
Terbacil	1.96	2.04		ug/L		104	70 - 130
Terbutylazine	1.96	2.17		ug/L		111	70 - 130
Thiobencarb	1.96	2.25		ug/L		115	70 - 130
trans-Nonachlor	1.96	1.96		ug/L		100	70 - 130
Trifluralin	1.96	1.83		ug/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Nitro-m-xylene	97		70 - 130
Perylene-d12	96		70 - 130
Triphenylphosphate	106		70 - 130

Lab Sample ID: MRL 380-87129/22-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.0978	0.110		ug/L		113	50 - 150
2,4'-DDD	0.0978	0.113		ug/L		115	50 - 150
2,4'-DDE	0.0978	0.0989		ug/L		101	50 - 150
2,4'-DDT	0.0978	0.0976	J	ug/L		100	50 - 150
2,4-Dinitrotoluene	0.0978	0.0846	J	ug/L		86	50 - 150
2,6-Dinitrotoluene	0.0978	0.101		ug/L		103	50 - 150
2-Methylnaphthalene	0.0978	0.100		ug/L		103	50 - 150
4,4'-DDD	0.0978	0.104		ug/L		106	50 - 150
4,4'-DDE	0.0978	0.0923	J	ug/L		94	50 - 150
4,4'-DDT	0.0978	0.115		ug/L		117	50 - 150
Acenaphthene	0.0978	0.0916	J	ug/L		94	50 - 150
Acenaphthylene	0.0978	0.0877	J	ug/L		90	50 - 150
Acetochlor	0.0489	0.0457	J	ug/L		94	50 - 150
Alachlor	0.0489	0.0487	J	ug/L		100	50 - 150
alpha-BHC	0.0978	0.0989		ug/L		101	50 - 150
alpha-Chlordane	0.0244	<0.028		ug/L		89	50 - 150
Anthracene	0.0196	0.0191	J	ug/L		98	50 - 150

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-87129/22-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Atrazine	0.0489	<0.047		ug/L		91	50 - 150
Benz(a)anthracene	0.0489	0.0508		ug/L		104	50 - 150
Benzo[a]pyrene	0.0196	0.0162	J	ug/L		83	50 - 150
Benzo[b]fluoranthene	0.0196	0.0193	J	ug/L		99	50 - 150
Benzo[g,h,i]perylene	0.0489	0.0432	J	ug/L		88	50 - 150
Benzo[k]fluoranthene	0.0196	0.0208		ug/L		106	50 - 150
beta-BHC	0.0978	0.0932	J	ug/L		95	50 - 150
Bis(2-ethylhexyl) phthalate	0.587	0.594		ug/L		101	50 - 150
Bromacil	0.0978	0.0990		ug/L		101	50 - 150
Butachlor	0.0489	0.0478	J	ug/L		98	50 - 150
Butylbenzylphthalate	0.147	0.150	J	ug/L		102	50 - 150
Chlorobenzilate	0.0978	0.100		ug/L		102	50 - 150
Chloroneb	0.0978	0.0925	J	ug/L		95	50 - 150
Chlorothalonil (Draconil, Bravo)	0.0978	0.117		ug/L		119	50 - 150
Chlorpyrifos	0.0489	0.0537		ug/L		110	50 - 150
Chrysene	0.0196	0.0204		ug/L		105	50 - 150
delta-BHC	0.0978	0.118		ug/L		121	50 - 150
Di(2-ethylhexyl)adipate	0.293	0.318	J	ug/L		108	50 - 150
Dibenz(a,h)anthracene	0.0489	0.0464	J	ug/L		95	50 - 150
Diclorvos (DDVP)	0.0489	0.0527		ug/L		108	50 - 150
Dieldrin	0.0978	0.0966	J	ug/L		99	50 - 150
Diethylphthalate	0.147	0.154	J	ug/L		105	50 - 150
Dimethylphthalate	0.293	0.276	J	ug/L		94	50 - 150
Di-n-butyl phthalate	0.293	0.325	J	ug/L		111	49 - 243
Di-n-octyl phthalate	0.0978	0.0900	J	ug/L		92	50 - 150
Endosulfan I (Alpha)	0.0978	0.106		ug/L		109	50 - 150
Endosulfan II (Beta)	0.0978	0.111		ug/L		114	50 - 150
Endosulfan sulfate	0.0978	0.0916	J	ug/L		94	50 - 150
Endrin	0.0978	0.109		ug/L		111	50 - 150
Endrin aldehyde	0.0978	0.102		ug/L		105	50 - 150
EPTC	0.0978	0.112		ug/L		115	50 - 150
Fluoranthene	0.0489	0.0477	J	ug/L		98	50 - 150
Fluorene	0.0489	<0.049		ug/L		99	50 - 150
gamma-Chlordane	0.0244	0.0213	J	ug/L		87	50 - 150
Heptachlor	0.0391	0.0485		ug/L		124	50 - 150
Heptachlor epoxide (isomer B)	0.0489	0.0539		ug/L		110	50 - 150
Hexachlorobenzene	0.0489	0.0453	J	ug/L		93	50 - 150
Hexachlorocyclopentadiene	0.0489	0.0531		ug/L		109	50 - 150
Indeno[1,2,3-cd]pyrene	0.0489	0.0441	J	ug/L		90	50 - 150
Isophorone	0.0978	0.0962	J	ug/L		98	50 - 150
Lindane	0.0391	0.0401		ug/L		103	50 - 150
Malathion	0.0978	0.0904	J	ug/L		92	50 - 150
Methoxychlor	0.0978	0.105		ug/L		107	50 - 150
Metolachlor	0.0489	0.0545		ug/L		112	50 - 150
Molinate	0.0978	0.111		ug/L		114	50 - 150
Naphthalene	0.0978	0.0928	J	ug/L		95	50 - 150
Parathion	0.0978	0.0901	J	ug/L		92	50 - 150
Pendimethalin (Penoxaline)	0.0978	0.0820	J	ug/L		84	50 - 150
Phenanthrene	0.0196	0.0216	J	ug/L		110	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-87129/22-A
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Propachlor	0.0489	0.0510		ug/L		104	50 - 150
Pyrene	0.0489	0.0503		ug/L		103	50 - 150
Simazine	0.0489	0.0501		ug/L		102	50 - 150
Terbacil	0.0978	0.101		ug/L		103	50 - 150
Terbutylazine	0.0978	0.0970	J	ug/L		99	50 - 150
Thiobencarb	0.0978	0.108	J	ug/L		111	50 - 150
trans-Nonachlor	0.0244	<0.025		ug/L		98	50 - 150
Trifluralin	0.0978	0.0923	J	ug/L		94	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
2-Nitro-m-xylene	94		70 - 130
Perylene-d12	95		70 - 130
Triphenylphosphate	102		70 - 130

Lab Sample ID: 380-91563-B-6-A MS
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	<0.10		2.14	2.23		ug/L		104	70 - 130
2,4'-DDD	<0.10		2.14	2.35		ug/L		110	70 - 130
2,4'-DDE	<0.10		2.14	2.22		ug/L		104	70 - 130
2,4'-DDT	<0.10		2.14	2.48		ug/L		116	70 - 130
2,4-Dinitrotoluene	<0.10		2.14	2.03		ug/L		95	70 - 130
2,6-Dinitrotoluene	<0.10		2.14	2.10		ug/L		98	70 - 130
2-Methylnaphthalene	<0.10		2.14	2.25		ug/L		105	70 - 130
4,4'-DDD	<0.10		2.14	2.30		ug/L		107	70 - 130
4,4'-DDE	<0.10		2.14	2.15		ug/L		101	70 - 130
4,4'-DDT	<0.10		2.14	2.18		ug/L		102	70 - 130
Acenaphthene	<0.10		2.14	2.11		ug/L		98	70 - 130
Acenaphthylene	<0.10		2.14	2.22		ug/L		104	70 - 130
Acetochlor	<0.10		2.14	2.36		ug/L		110	70 - 130
Alachlor	<0.050		2.14	2.31		ug/L		108	70 - 130
alpha-BHC	<0.10		2.14	2.18		ug/L		102	70 - 130
alpha-Chlordane	<0.050		2.14	2.17		ug/L		102	70 - 130
Anthracene	<0.020	F1	2.14	1.46	F1	ug/L		68	70 - 130
Atrazine	<0.050		2.14	2.42		ug/L		113	70 - 130
Benz(a)anthracene	<0.050		2.14	1.91		ug/L		90	70 - 130
Benzo[a]pyrene	<0.020		2.14	1.86		ug/L		87	70 - 130
Benzo[b]fluoranthene	<0.020		2.14	2.27		ug/L		106	70 - 130
Benzo[g,h,i]perylene	<0.050		2.14	2.26		ug/L		106	70 - 130
Benzo[k]fluoranthene	<0.020		2.14	2.32		ug/L		109	70 - 130
beta-BHC	<0.10		2.14	2.17		ug/L		101	70 - 130
Bis(2-ethylhexyl) phthalate	<0.60		2.14	2.30		ug/L		107	70 - 130
Bromacil	<0.10		2.14	2.57		ug/L		120	70 - 130
Butachlor	<0.050		2.14	2.43		ug/L		114	70 - 130
Butylbenzylphthalate	<0.50		2.14	2.41		ug/L		113	70 - 130
Chlorobenzilate	<0.10		2.14	1.96		ug/L		92	70 - 130

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91563-B-6-A MS
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroneb	<0.10		2.14	2.40		ug/L		112	70 - 130
Chlorothalonil (Draconil, Bravo)	<0.10		2.14	2.34		ug/L		110	70 - 130
Chlorpyrifos	<0.050		2.14	2.41		ug/L		113	70 - 130
Chrysene	<0.020		2.14	2.19		ug/L		102	70 - 130
delta-BHC	<0.10		2.14	2.18		ug/L		102	70 - 130
Di(2-ethylhexyl)adipate	<0.60	F2	2.14	2.51		ug/L		117	70 - 130
Dibenz(a,h)anthracene	<0.050		2.14	2.28		ug/L		107	70 - 130
Diclorvos (DDVP)	<0.050		2.14	2.46		ug/L		115	70 - 130
Dieldrin	<0.20		2.14	2.15		ug/L		101	70 - 130
Diethylphthalate	<0.50		2.14	2.29		ug/L		107	70 - 130
Dimethylphthalate	<0.50		2.14	2.31		ug/L		108	70 - 130
Di-n-butyl phthalate	<1.0		4.28	4.86		ug/L		114	70 - 130
Di-n-octyl phthalate	<0.10		2.14	2.10		ug/L		98	70 - 130
Endosulfan I (Alpha)	<0.10		2.14	2.22		ug/L		104	70 - 130
Endosulfan II (Beta)	<0.10		2.14	2.35		ug/L		110	70 - 130
Endosulfan sulfate	<0.10		2.14	2.33		ug/L		109	70 - 130
Endrin	<0.10		2.14	2.31		ug/L		108	70 - 130
Endrin aldehyde	<0.10		2.14	2.03		ug/L		95	60 - 130
EPTC	<0.10		2.14	2.56		ug/L		120	70 - 130
Fluoranthene	<0.10		2.14	2.22		ug/L		104	70 - 130
Fluorene	<0.050		2.14	2.29		ug/L		107	70 - 130
gamma-Chlordane	<0.050		2.14	2.26		ug/L		106	70 - 130
Heptachlor	<0.040		2.14	2.37		ug/L		111	70 - 130
Heptachlor epoxide (isomer B)	<0.050		2.14	2.21		ug/L		103	70 - 130
Hexachlorobenzene	<0.050		2.14	2.09		ug/L		98	70 - 130
Hexachlorocyclopentadiene	<0.050		2.14	2.32		ug/L		109	70 - 130
Indeno[1,2,3-cd]pyrene	<0.050		2.14	2.24		ug/L		105	70 - 130
Isophorone	<0.50		2.14	2.15		ug/L		101	70 - 130
Lindane	<0.040		2.14	2.30		ug/L		107	70 - 130
Malathion	<0.10		2.14	2.46		ug/L		115	70 - 130
Methoxychlor	<0.10	F1	2.14	2.33		ug/L		109	70 - 130
Metolachlor	<0.050		2.14	2.40		ug/L		112	70 - 130
Molinate	<0.10		2.14	2.35		ug/L		110	70 - 130
Naphthalene	<0.30		2.14	2.04		ug/L		95	70 - 130
Parathion	<0.10		2.14	2.29		ug/L		107	70 - 130
Pendimethalin (Penoxaline)	<0.10		2.14	2.13		ug/L		100	70 - 130
Phenanthrene	<0.040		2.14	2.09		ug/L		98	70 - 130
Propachlor	<0.050		2.14	2.33		ug/L		109	70 - 130
Pyrene	<0.050		2.14	2.22		ug/L		104	70 - 130
Simazine	<0.050		2.14	2.42		ug/L		113	70 - 130
Terbacil	<0.10		2.14	2.34		ug/L		109	70 - 130
Terbutylazine	<0.10		2.14	2.44		ug/L		114	70 - 130
Thiobencarb	<0.20		2.14	2.46		ug/L		115	70 - 130
trans-Nonachlor	<0.050		2.14	2.17		ug/L		101	70 - 130
Trifluralin	<0.10		2.14	2.10		ug/L		98	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Nitro-m-xylene	97		70 - 130

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91563-B-6-A MS
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 87129

Surrogate	MS %Recovery	MS Qualifier	Limits
Perylene-d12	95		70 - 130
Triphenylphosphate	106		70 - 130

Lab Sample ID: 380-91563-B-6-B MSD
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene	<0.10		1.95	2.01		ug/L		103	70 - 130	10	20
2,4'-DDD	<0.10		1.95	2.13		ug/L		110	70 - 130	10	20
2,4'-DDE	<0.10		1.95	1.92		ug/L		99	70 - 130	15	20
2,4'-DDT	<0.10		1.95	2.05		ug/L		105	70 - 130	19	20
2,4-Dinitrotoluene	<0.10		1.95	1.92		ug/L		99	70 - 130	6	20
2,6-Dinitrotoluene	<0.10		1.95	1.93		ug/L		99	70 - 130	8	20
2-Methylnaphthalene	<0.10		1.95	2.05		ug/L		105	70 - 130	10	20
4,4'-DDD	<0.10		1.95	2.08		ug/L		107	70 - 130	10	20
4,4'-DDE	<0.10		1.95	1.80		ug/L		92	70 - 130	18	20
4,4'-DDT	<0.10		1.95	1.80		ug/L		93	70 - 130	19	20
Acenaphthene	<0.10		1.95	1.92		ug/L		99	70 - 130	9	20
Acenaphthylene	<0.10		1.95	2.03		ug/L		105	70 - 130	9	20
Acetochlor	<0.10		1.95	2.15		ug/L		110	70 - 130	9	20
Alachlor	<0.050		1.95	2.14		ug/L		110	70 - 130	8	20
alpha-BHC	<0.10		1.95	2.01		ug/L		103	70 - 130	8	20
alpha-Chlordane	<0.050		1.95	1.95		ug/L		100	70 - 130	11	20
Anthracene	<0.020	F1	1.95	1.47		ug/L		75	70 - 130	0	20
Atrazine	<0.050		1.95	2.24		ug/L		115	70 - 130	8	20
Benz(a)anthracene	<0.050		1.95	1.70		ug/L		88	70 - 130	12	20
Benzo[a]pyrene	<0.020		1.95	1.86		ug/L		96	70 - 130	0	20
Benzo[b]fluoranthene	<0.020		1.95	2.21		ug/L		114	70 - 130	3	20
Benzo[g,h,i]perylene	<0.050		1.95	2.03		ug/L		104	70 - 130	11	20
Benzo[k]fluoranthene	<0.020		1.95	2.10		ug/L		108	70 - 130	10	20
beta-BHC	<0.10		1.95	2.05		ug/L		106	70 - 130	5	20
Bis(2-ethylhexyl) phthalate	<0.60		1.95	2.00		ug/L		103	70 - 130	14	20
Bromacil	<0.10		1.95	2.48		ug/L		127	70 - 130	4	20
Butachlor	<0.050		1.95	2.31		ug/L		119	70 - 130	5	20
Butylbenzylphthalate	<0.50		1.95	2.31		ug/L		119	70 - 130	4	20
Chlorobenzilate	<0.10		1.95	2.13		ug/L		109	70 - 130	8	20
Chloroneb	<0.10		1.95	2.17		ug/L		112	70 - 130	10	20
Chlorothalonil (Draconil, Bravo)	<0.10		1.95	2.26		ug/L		116	70 - 130	4	20
Chlorpyrifos	<0.050		1.95	2.22		ug/L		114	70 - 130	8	20
Chrysene	<0.020		1.95	2.06		ug/L		106	70 - 130	6	20
delta-BHC	<0.10		1.95	2.04		ug/L		105	70 - 130	7	20
Di(2-ethylhexyl)adipate	<0.60	F2	1.95	1.86	F2	ug/L		95	70 - 130	30	20
Dibenz(a,h)anthracene	<0.050		1.95	2.01		ug/L		103	70 - 130	13	20
Diclorvos (DDVP)	<0.050		1.95	2.19		ug/L		113	70 - 130	12	20
Dieldrin	<0.20		1.95	2.01		ug/L		104	70 - 130	7	20
Diethylphthalate	<0.50		1.95	2.09		ug/L		107	70 - 130	9	20
Dimethylphthalate	<0.50		1.95	2.12		ug/L		109	70 - 130	8	20

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91563-B-6-B MSD
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Di-n-butyl phthalate	<1.0		3.89	4.44		ug/L		114	70 - 130	9	20
Di-n-octyl phthalate	<0.10		1.95	1.83		ug/L		94	70 - 130	14	20
Endosulfan I (Alpha)	<0.10		1.95	2.02		ug/L		104	70 - 130	9	20
Endosulfan II (Beta)	<0.10		1.95	2.21		ug/L		113	70 - 130	6	20
Endosulfan sulfate	<0.10		1.95	2.20		ug/L		113	70 - 130	6	20
Endrin	<0.10		1.95	2.22		ug/L		114	70 - 130	4	20
Endrin aldehyde	<0.10		1.95	1.95		ug/L		100	60 - 130	4	20
EPTC	<0.10		1.95	2.32		ug/L		119	70 - 130	10	20
Fluoranthene	<0.10		1.95	2.14		ug/L		110	70 - 130	4	20
Fluorene	<0.050		1.95	2.11		ug/L		108	70 - 130	8	20
gamma-Chlordane	<0.050		1.95	1.98		ug/L		102	70 - 130	13	20
Heptachlor	<0.040		1.95	2.18		ug/L		112	70 - 130	9	20
Heptachlor epoxide (isomer B)	<0.050		1.95	2.07		ug/L		106	70 - 130	7	20
Hexachlorobenzene	<0.050		1.95	1.89		ug/L		97	70 - 130	10	20
Hexachlorocyclopentadiene	<0.050		1.95	2.14		ug/L		110	70 - 130	8	20
Indeno[1,2,3-cd]pyrene	<0.050		1.95	2.03		ug/L		104	70 - 130	10	20
Isophorone	<0.50		1.95	1.93		ug/L		99	70 - 130	11	20
Lindane	<0.040		1.95	2.08		ug/L		107	70 - 130	10	20
Malathion	<0.10		1.95	2.31		ug/L		119	70 - 130	6	20
Methoxychlor	<0.10	F1	1.95	2.66	F1	ug/L		137	70 - 130	13	20
Metolachlor	<0.050		1.95	2.23		ug/L		114	70 - 130	8	20
Molinate	<0.10		1.95	2.13		ug/L		109	70 - 130	10	20
Naphthalene	<0.30		1.95	1.82		ug/L		93	70 - 130	12	20
Parathion	<0.10		1.95	2.18		ug/L		112	70 - 130	5	20
Pendimethalin (Penoxaline)	<0.10		1.95	2.04		ug/L		105	70 - 130	4	20
Phenanthrene	<0.040		1.95	1.96		ug/L		101	70 - 130	6	20
Propachlor	<0.050		1.95	2.13		ug/L		109	70 - 130	9	20
Pyrene	<0.050		1.95	2.16		ug/L		111	70 - 130	3	20
Simazine	<0.050		1.95	2.27		ug/L		117	70 - 130	6	20
Terbacil	<0.10		1.95	2.13		ug/L		109	70 - 130	9	20
Terbutylazine	<0.10		1.95	2.23		ug/L		115	70 - 130	9	20
Thiobencarb	<0.20		1.95	2.31		ug/L		119	70 - 130	6	20
trans-Nonachlor	<0.050		1.95	1.93		ug/L		99	70 - 130	12	20
Trifluralin	<0.10		1.95	1.92		ug/L		99	70 - 130	9	20
			MSD	MSD							
Surrogate			%Recovery	Qualifier					Limits		
2-Nitro-m-xylene			97						70 - 130		
Perylene-d12			99						70 - 130		
Triphenylphosphate			110						70 - 130		

Lab Sample ID: 380-91460-AI-1-A DU
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier				RPD	Limit
1-Methylnaphthalene	<0.098		<0.099		ug/L			NC	20
2,4'-DDD	<0.098		<0.099		ug/L			NC	20
2,4'-DDE	<0.098		<0.099		ug/L			NC	20

QC Sample Results

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

Job ID: 380-91826-1
 SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91460-AI-1-A DU
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
2,4'-DDT	<0.098		<0.099		ug/L		NC	20
2,4-Dinitrotoluene	<0.098		<0.099		ug/L		NC	20
2,6-Dinitrotoluene	<0.098		<0.099		ug/L		NC	20
2-Methylnaphthalene	<0.098		<0.099		ug/L		NC	20
4,4'-DDD	<0.098		<0.099		ug/L		NC	20
4,4'-DDE	<0.098		<0.099		ug/L		NC	20
4,4'-DDT	<0.098		<0.099		ug/L		NC	20
Acenaphthene	<0.098		<0.099		ug/L		NC	20
Acenaphthylene	<0.098		<0.099		ug/L		NC	20
Acetochlor	<0.098		<0.099		ug/L		NC	20
Alachlor	<0.049		<0.049		ug/L		NC	20
alpha-BHC	<0.098		<0.099		ug/L		NC	20
alpha-Chlordane	<0.049		<0.049		ug/L		NC	20
Anthracene	<0.020		<0.020		ug/L		NC	20
Atrazine	<0.049		<0.049		ug/L		NC	20
Benz(a)anthracene	<0.049		<0.049		ug/L		NC	20
Benzo[a]pyrene	<0.020		<0.020		ug/L		NC	20
Benzo[b]fluoranthene	<0.020		<0.020		ug/L		NC	20
Benzo[g,h,i]perylene	<0.049		<0.049		ug/L		NC	20
Benzo[k]fluoranthene	<0.020		<0.020		ug/L		NC	20
beta-BHC	<0.098		<0.099		ug/L		NC	20
Bis(2-ethylhexyl) phthalate	<0.59		<0.59		ug/L		NC	20
Bromacil	<0.098		<0.099		ug/L		NC	20
Butachlor	<0.049		<0.049		ug/L		NC	20
Butylbenzylphthalate	<0.49		<0.49		ug/L		NC	20
Chlorobenzilate	<0.098		<0.099		ug/L		NC	20
Chloroneb	<0.098		<0.099		ug/L		NC	20
Chlorothalonil (Draconil, Bravo)	<0.098		<0.099		ug/L		NC	20
Chlorpyrifos	<0.049		<0.049		ug/L		NC	20
Chrysene	<0.020		<0.020		ug/L		NC	20
delta-BHC	<0.098		<0.099		ug/L		NC	20
Di(2-ethylhexyl)adipate	<0.59		<0.59		ug/L		NC	20
Dibenz(a,h)anthracene	<0.049		<0.049		ug/L		NC	20
Diclorvos (DDVP)	<0.049		<0.049		ug/L		NC	20
Dieldrin	<0.20		<0.20		ug/L		NC	20
Diethylphthalate	<0.49		<0.49		ug/L		NC	20
Dimethylphthalate	<0.49		<0.49		ug/L		NC	20
Di-n-butyl phthalate	<0.98		<0.99		ug/L		NC	20
Di-n-octyl phthalate	<0.098		<0.099		ug/L		NC	20
Endosulfan I (Alpha)	<0.098		<0.099		ug/L		NC	20
Endosulfan II (Beta)	<0.098		<0.099		ug/L		NC	20
Endosulfan sulfate	<0.098		<0.099		ug/L		NC	20
Endrin	<0.098		<0.099		ug/L		NC	20
Endrin aldehyde	<0.098		<0.099		ug/L		NC	20
EPTC	<0.098		<0.099		ug/L		NC	20
Fluoranthene	<0.098		<0.099		ug/L		NC	20
Fluorene	<0.049		<0.049		ug/L		NC	20
gamma-Chlordane	<0.049		<0.049		ug/L		NC	20
Heptachlor	<0.039		<0.040		ug/L		NC	20

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91460-AI-1-A DU
Matrix: Water
Analysis Batch: 87393

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 87129

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Heptachlor epoxide (isomer B)	<0.049		<0.049		ug/L		NC	20
Hexachlorobenzene	<0.049		<0.049		ug/L		NC	20
Hexachlorocyclopentadiene	<0.049		<0.049		ug/L		NC	20
Indeno[1,2,3-cd]pyrene	<0.049		<0.049		ug/L		NC	20
Isophorone	<0.49		<0.49		ug/L		NC	20
Lindane	<0.039		<0.040		ug/L		NC	20
Malathion	<0.098		<0.099		ug/L		NC	20
Methoxychlor	<0.098		<0.099		ug/L		NC	20
Metolachlor	<0.049		<0.049		ug/L		NC	20
Molinate	<0.098		<0.099		ug/L		NC	20
Naphthalene	<0.29		<0.30		ug/L		NC	20
Parathion	<0.098		<0.099		ug/L		NC	20
Pendimethalin (Penoxaline)	<0.098		<0.099		ug/L		NC	20
Phenanthrene	<0.039		<0.040		ug/L		NC	20
Propachlor	<0.049		<0.049		ug/L		NC	20
Pyrene	<0.049		<0.049		ug/L		NC	20
Simazine	<0.049		<0.049		ug/L		NC	20
Terbacil	<0.098		<0.099		ug/L		NC	20
Terbutylazine	<0.098		<0.099		ug/L		NC	20
Thiobencarb	<0.20		<0.20		ug/L		NC	20
Total Permethrin (mixed isomers)	<0.20		<0.20		ug/L		NC	20
trans-Nonachlor	<0.049		<0.049		ug/L		NC	20
Trifluralin	<0.098		<0.099		ug/L		NC	20
		DU	DU					
Surrogate	%Recovery	Qualifier	Limits					
2-Nitro-m-xylene	99		70 - 130					
Perylene-d12	90		70 - 130					
Triphenylphosphate	112		70 - 130					

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

Lab Sample ID: MBL 380-86497/20-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86497

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MBL 380-86497/20-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86497

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		04/18/24 04:31	04/18/24 19:06	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C6 PFDA	95		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C5 PFHxA	91		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C4 PFHpA	91		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C8 PFOA	96		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C9 PFNA	94		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C7 PFUnA	95		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C2 PFDoA	95		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C4 PFBA	94		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C5 PFPeA	91		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C3 PFBS	103		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C3 PFHxS	106		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C8 PFOS	102		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C2-4:2-FTS	131		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C2-6:2-FTS	122		50 - 200	04/18/24 04:31	04/18/24 19:06	1
13C2-8:2-FTS	106		50 - 200	04/18/24 04:31	04/18/24 19:06	1

Lab Sample ID: LCS 380-86497/22-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	121	108		ng/L		89	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-86497/22-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	121	108		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	121	110		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	121	107		ng/L		89	70 - 130
Perfluorobutanesulfonic acid (PFBS)	121	111		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	121	115		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	121	115		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	121	114		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	121	114		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	121	116		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	121	115		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	121	120		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	121	114		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	121	113		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	121	113		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	121	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	121	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	121	113		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	121	120		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	121	109		ng/L		90	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	121	110		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	121	114		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	121	113		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	121	113		ng/L		94	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	121	112		ng/L		93	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	98		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	100		50 - 200
13C2 PFDoA	99		50 - 200
13C4 PFBA	102		50 - 200

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-86497/22-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86497

<i>Isotope Dilution</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
13C5 PFPeA	100		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	114		50 - 200
13C2-8:2-FTS	103		50 - 200

Lab Sample ID: MRL 380-86497/21-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86497

<i>Analyte</i>	<i>Spike Added</i>	<i>MRL Result</i>	<i>MRL Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.83	J	ng/L		91	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.88	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.92	J	ng/L		96	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.01	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.13	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.05	J	ng/L		102	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	1.94	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.07	J	ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.08	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.11	J	ng/L		105	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.02	J	ng/L		101	50 - 150

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-86497/21-A
Matrix: Water
Analysis Batch: 86627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.00	J	ng/L		100	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.98	J	ng/L		99	50 - 150
Isotope Dilution							
	MRL %Recovery	MRL Qualifier	Limits				
13C3 HFPO-DA	88		50 - 200				
13C6 PFDA	93		50 - 200				
13C5 PFHxA	95		50 - 200				
13C4 PFHpA	96		50 - 200				
13C8 PFOA	96		50 - 200				
13C9 PFNA	97		50 - 200				
13C7 PFUnA	96		50 - 200				
13C2 PFDoA	96		50 - 200				
13C4 PFBA	100		50 - 200				
13C5 PFPeA	96		50 - 200				
13C3 PFBS	103		50 - 200				
13C3 PFHxS	102		50 - 200				
13C8 PFOS	100		50 - 200				
13C2-4:2-FTS	126		50 - 200				
13C2-6:2-FTS	119		50 - 200				
13C2-8:2-FTS	102		50 - 200				

Lab Sample ID: 380-91826-1 MS
Matrix: Water
Analysis Batch: 86627

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	109		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	111		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	115		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	109		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	119		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	120		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	112		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	116		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	117		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	116		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	116		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	123		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	114		ng/L		95	70 - 130

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91826-1 MS
Matrix: Water
Analysis Batch: 86627

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	<2.0		120	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	116		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	114		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	127		ng/L		106	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	110		ng/L		91	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	114		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	114		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	114		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	118		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	115		ng/L		96	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	99		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	102		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	126		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	109		50 - 200

Lab Sample ID: 380-91826-1 MSD
Matrix: Water
Analysis Batch: 86627

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec	RPD	
									Limits	RPD	Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	109		ng/L		91	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	108		ng/L		90	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91826-1 MSD
Matrix: Water
Analysis Batch: 86627

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 86497

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	113		ng/L		94	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	108		ng/L		90	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	117		ng/L		97	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		120	116		ng/L		96	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	114		ng/L		95	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	115		ng/L		96	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	119		ng/L		98	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	116		ng/L		96	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		120	114		ng/L		95	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	122		ng/L		100	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		120	115		ng/L		95	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	112		ng/L		93	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		120	112		ng/L		92	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	114		ng/L		95	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	112		ng/L		93	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	112		ng/L		93	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	112		ng/L		93	70 - 130	13	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	110		ng/L		92	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	113		ng/L		94	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	110		ng/L		92	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	112		ng/L		92	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	116		ng/L		97	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	117		ng/L		97	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	104		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	102		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	103		50 - 200

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91826-1 MSD
Matrix: Water
Analysis Batch: 86627

Client Sample ID: MOANALUA WELLS
Prep Type: Total/NA
Prep Batch: 86497

Isotope Dilution	MSD		Limits
	%Recovery	Qualifier	
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	125		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	108		50 - 200

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

Lab Sample ID: MBL 380-86507/21-A
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 86507

Analyte	MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/18/24 08:16	04/18/24 16:53	1

Surrogate	MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	105		70 - 130	04/18/24 08:16	04/18/24 16:53	1
13C2 PFHxA	107		70 - 130	04/18/24 08:16	04/18/24 16:53	1
13C2 PFDA	104		70 - 130	04/18/24 08:16	04/18/24 16:53	1
13C3-GenX	102		70 - 130	04/18/24 08:16	04/18/24 16:53	1

Lab Sample ID: LCS 380-86507/23-A
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: LCS 380-86507/23-A
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	25.1	28.0		ng/L		112	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	25.9		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	26.4		ng/L		105	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	27.6		ng/L		110	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	25.3		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	24.8		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	27.0		ng/L		108	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	25.5		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	29.4		ng/L		117	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	24.0		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	28.5		ng/L		114	70 - 130
Perfluorononanoic acid (PFNA)	25.1	26.8		ng/L		107	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	27.1		ng/L		108	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	26.2		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	26.8		ng/L		107	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	26.1		ng/L		104	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	27.0		ng/L		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	114		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	106		70 - 130
13C3-GenX	102		70 - 130

Lab Sample ID: MRL 380-86507/22-A
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.56	J	ng/L		128	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.43	J	ng/L		121	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.58	J	ng/L		129	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.62	J	ng/L		131	50 - 150

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QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: MRL 380-86507/22-A
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	2.00	2.40	J	ng/L		120	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.56	J	ng/L		128	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.37	J	ng/L		118	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.64	J	ng/L		132	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.19	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.66	J	ng/L		132	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.60	J	ng/L		130	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.44	J	ng/L		122	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.35	J	ng/L		117	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.00	2.47	J	ng/L		123	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.45	J	ng/L		122	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.57	J	ng/L		128	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	112		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	100		70 - 130

Lab Sample ID: 380-91839-B-1-A MS
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.4		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.1		25.1	30.6		ng/L		114	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.8		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	27.1		ng/L		108	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.4		ng/L		109	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	29.2		ng/L		111	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.7		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	29.5		ng/L		113	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.1		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	30.2		ng/L		116	70 - 130

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91839-B-1-A MS
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	27.4		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	29.2		ng/L		114	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.9		ng/L		111	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	27.1		ng/L		108	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	26.6		ng/L		106	70 - 130
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	27.6		ng/L		110	70 - 130
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	27.0		ng/L		108	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	28.0		ng/L		112	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	114		70 - 130
13C2 PFHxA	115		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	111		70 - 130

Lab Sample ID: 380-91839-C-1-A MSD
Matrix: Water
Analysis Batch: 86633

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 86507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	24.5		ng/L		98	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	2.1		25.1	29.6		ng/L		110	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	24.3		ng/L		97	70 - 130	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.8		ng/L		107	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	26.7		ng/L		106	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.7		ng/L		101	70 - 130	9	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	24.7		ng/L		98	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	28.9		ng/L		110	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	24.4		ng/L		97	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	29.1		ng/L		112	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	25.7		ng/L		98	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.8		ng/L		108	70 - 130	5	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.7		ng/L		103	70 - 130	8	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	26.4		ng/L		105	70 - 130	3	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	25.4		ng/L		101	70 - 130	5	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

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

Lab Sample ID: 380-91839-C-1-A MSD

Matrix: Water

Analysis Batch: 86633

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 86507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.9		ng/L		107	70 - 130	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	26.8		ng/L		107	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	25.7		ng/L		103	70 - 130	8	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	117		70 - 130								
13C2 PFHxA	108		70 - 130								
13C2 PFDA	108		70 - 130								
13C3-GenX	103		70 - 130								

QC Association Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

GC/MS Semi VOA

Prep Batch: 87129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-1	MOANALUA WELLS	Total/NA	Water	525.2	
380-91826-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	525.2	
MB 380-87129/21-A	Method Blank	Total/NA	Water	525.2	
LCS 380-87129/23-A	Lab Control Sample	Total/NA	Water	525.2	
MRL 380-87129/22-A	Lab Control Sample	Total/NA	Water	525.2	
380-91563-B-6-A MS	Matrix Spike	Total/NA	Water	525.2	
380-91563-B-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	
380-91460-AI-1-A DU	Duplicate	Total/NA	Water	525.2	

Analysis Batch: 87393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-1	MOANALUA WELLS	Total/NA	Water	525.2	87129
380-91826-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	525.2	87129
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	525.2	87129
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	525.2	87129
MB 380-87129/21-A	Method Blank	Total/NA	Water	525.2	87129
LCS 380-87129/23-A	Lab Control Sample	Total/NA	Water	525.2	87129
MRL 380-87129/22-A	Lab Control Sample	Total/NA	Water	525.2	87129
380-91563-B-6-A MS	Matrix Spike	Total/NA	Water	525.2	87129
380-91563-B-6-B MSD	Matrix Spike Duplicate	Total/NA	Water	525.2	87129
380-91460-AI-1-A DU	Duplicate	Total/NA	Water	525.2	87129

LCMS

Prep Batch: 86497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-1	MOANALUA WELLS	Total/NA	Water	533	
380-91826-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	
380-91826-5	FB MOANALUA WELLS	Total/NA	Water	533	
380-91826-6	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	
MBL 380-86497/20-A	Method Blank	Total/NA	Water	533	
LCS 380-86497/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-86497/21-A	Lab Control Sample	Total/NA	Water	533	
380-91826-1 MS	MOANALUA WELLS	Total/NA	Water	533	
380-91826-1 MSD	MOANALUA WELLS	Total/NA	Water	533	

Prep Batch: 86507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-1	MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-91826-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1 DW	
380-91826-5	FB MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-91826-6	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1 DW	

QC Association Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

LCMS (Continued)

Prep Batch: 86507 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1 DW	
MBL 380-86507/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-86507/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-86507/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-91839-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-91839-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 86627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-1	MOANALUA WELLS	Total/NA	Water	533	86497
380-91826-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	86497
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	86497
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	86497
380-91826-5	FB MOANALUA WELLS	Total/NA	Water	533	86497
380-91826-6	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	86497
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	533	86497
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	533	86497
MBL 380-86497/20-A	Method Blank	Total/NA	Water	533	86497
LCS 380-86497/22-A	Lab Control Sample	Total/NA	Water	533	86497
MRL 380-86497/21-A	Lab Control Sample	Total/NA	Water	533	86497
380-91826-1 MS	MOANALUA WELLS	Total/NA	Water	533	86497
380-91826-1 MSD	MOANALUA WELLS	Total/NA	Water	533	86497

Analysis Batch: 86633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-91826-1	MOANALUA WELLS	Total/NA	Water	537.1	86507
380-91826-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	86507
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	86507
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1	86507
380-91826-5	FB MOANALUA WELLS	Total/NA	Water	537.1	86507
380-91826-6	FB AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	86507
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	537.1	86507
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	537.1	86507
MBL 380-86507/21-A	Method Blank	Total/NA	Water	537.1	86507
LCS 380-86507/23-A	Lab Control Sample	Total/NA	Water	537.1	86507
MRL 380-86507/22-A	Lab Control Sample	Total/NA	Water	537.1	86507
380-91839-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	86507
380-91839-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	86507

Lab Chronicle

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

Job ID: 380-91826-1
 SDG: 525.2, 533, 537.1

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-91826-1

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			87129	OTM3	EA POM	04/23/24 09:00
Total/NA	Analysis	525.2		1	87393	Q8LA	EA POM	04/24/24 14:41
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 19:38
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 18:47

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-2

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			87129	OTM3	EA POM	04/23/24 09:00
Total/NA	Analysis	525.2		1	87393	Q8LA	EA POM	04/24/24 15:01
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 21:04
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 18:56

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-3

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			87129	OTM3	EA POM	04/23/24 09:00
Total/NA	Analysis	525.2		1	87393	Q8LA	EA POM	04/24/24 15:20
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 21:15
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 19:06

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-4

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	525.2			87129	OTM3	EA POM	04/23/24 09:00
Total/NA	Analysis	525.2		1	87393	Q8LA	EA POM	04/24/24 15:40
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 21:25
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 19:26

Lab Chronicle

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-91826-5

Date Collected: 04/15/24 09:39

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 21:36
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 19:37

Client Sample ID: FB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-91826-6

Date Collected: 04/15/24 10:42

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 21:57
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 19:46

Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-91826-7

Date Collected: 04/15/24 11:14

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 22:08
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 19:55

Client Sample ID: FB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-91826-8

Date Collected: 04/15/24 10:10

Matrix: Water

Date Received: 04/17/24 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			86497	XTD8	EA POM	04/18/24 04:31
Total/NA	Analysis	533		1	86627	Y5FM	EA POM	04/18/24 22:19
Total/NA	Prep	537.1 DW			86507	A5GB	EA POM	04/18/24 08:16
Total/NA	Analysis	537.1		1	86633	M7ML	EA POM	04/18/24 20:05

Laboratory References:

EA POM = 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: 380-91826-1
 SDG: 525.2, 533, 537.1

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	02-12-24 *

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

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

Accreditation/Certification Summary

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

Job ID: 380-91826-1
 SDG: 525.2, 533, 537.1

Laboratory: Eurofins Eaton Analytical Pomona (Continued)

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

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
525.2	525.2	Water	Malathion
525.2	525.2	Water	Molinate
525.2	525.2	Water	Naphthalene
525.2	525.2	Water	Parathion
525.2	525.2	Water	Pendimethalin (Penoxaline)
525.2	525.2	Water	Phenanthrene
525.2	525.2	Water	Pyrene
525.2	525.2	Water	Terbacil
525.2	525.2	Water	Terbutylazine
525.2	525.2	Water	Thiobencarb
525.2	525.2	Water	Total Permethrin (mixed isomers)
525.2	525.2	Water	trans-Nonachlor
525.2	525.2	Water	Trifluralin
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)
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	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)

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

Method Summary

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

Job ID: 380-91826-1
SDG: 525.2, 533, 537.1

Method	Method Description	Protocol	Laboratory
525.2	Semivolatile Organic Compounds (GC/MS)	EPA	EA POM
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
525.2	Extraction of Semivolatile Compounds	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA POM = 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: 380-91826-1
SDG: 525.2, 533, 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-91826-1	MOANALUA WELLS	Water	04/15/24 09:39	04/17/24 10:30	HI0000331
380-91826-2	AIEA GULCH WELLS PUMP 2	Water	04/15/24 10:42	04/17/24 10:30	HI0000331
380-91826-3	AIEA WELLS PUMPS 1&2 (260) P2	Water	04/15/24 11:14	04/17/24 10:30	HI0000331
380-91826-4	HALAWA WELLS UNITS 1 & 2 P1	Water	04/15/24 10:10	04/17/24 10:30	HI0000331
380-91826-5	FB MOANALUA WELLS	Water	04/15/24 09:39	04/17/24 10:30	
380-91826-6	FB AIEA GULCH WELLS PUMP 2	Water	04/15/24 10:42	04/17/24 10:30	
380-91826-7	FB AIEA WELLS PUMPS 1&2 (260) P2	Water	04/15/24 11:14	04/17/24 10:30	
380-91826-8	FB HALAWA WELLS UNITS 1 & 2 P1	Water	04/15/24 10:10	04/17/24 10:30	



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

Refer to J91826 for these sites' SW & PFAS samples
 eurofins

Chain of Custody Record

Client Information Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab, Honolulu City: Honolulu State: HI, Zip: 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill Site:		Lab P/I: Arada Rachelle E-Mail: Rachelle.Arada@eurofins.com Carrier Tracking No(s): 380-27984-2757 2 State of Origin:		Page 1 of 1 Job #	
Due Date Requested: TAT Requested (days): Compliance Project: Δ No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Analysis Requested Form MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS_HNL Ranges C10 C24/C24-C36/C8 C18 525 2_PREC (MOD) 525plus PLUS TICs 537 1_DW_PREC 537 1 Full List 533 All Analytes N Y			
Sample Identification MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260) PZ HALAWA WELLS UNITS 1&2 P1		Sample Date 15-Apr-2024 15-Apr-2024 15-Apr-2024 15-Apr-2024		Sample Time 0939 1042 1114 1010	
Sample Type (C=Comp, G=grab) Preservation Code Matrix (W=water, S=solid, O=wastewater, T=tissue, A=air)		G G G G		Water Water Water Water	
TB MOANALUA WELLS TB AIEA GULCH WELLS PUMP2 TB AIEA WELLS PUMPS 1&2 (260) TB HALAWA WELLS UNITS 1&2		0939 1042 1114 1010		Water Water Water Water	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV Other (specify)					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/Note: chlorinated chlorinated 380-91820 COC					
Empty Kit Relinquished by Relinquished Relinquished Relinquished by		Date 16/01/2024 1400 1400 1400		Method of Shipment: FED EX Date/Time: 04/17/2024 10:30 Date/Time: 04/17/2024 10:30 Date/Time:	
Custody Seals Intact: Δ Yes \ No Custody Seal No		Cooler Temperature(s) °C and Other Remarks (75N) Δ 2.9°-0.1°=2.8° Δ 1.0° 0.1°-0.9° GEL-FROZEN			

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

Chain of Custody Record



Client Information		Sampler <i>Cooley</i>	Lab PM Arada, Rachelle	Carrier Tracking No(s)	COC No 380-27941-2757 2
Client Contact: Dr Ron Fenstermacher		Phone 808-748-5840	E Mail Rachelle.Arada@et.eurofins.com	State of Origin	Page Page 1 of 1
Company City & County of Honolulu		PWSID		Job #	
Address 630 South Beretania Street, Chemistry Lab		Due Date Requested		Analysis Requested	
City Honolulu		TAT Requested (days)		533 - All Analytes	
State Zip HI, 96843		Compliance Project Δ No		537 1, DM, PREC - 537 1 Full List	
Phone 808-748-5091 (tel)		PO # C20525101 exp 05312023		525 2, PREC - (MOD) 525plus PLUS TICs	
Email fenstermacher@hbws.org		WO #		8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18	
Project Name RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill		Project # 38001111		8015B_GRO_LL - (MOD) GRO	
Site		SSOW#		SUBCONTRACT 625 PAH Physis LL (EAL) + TICs	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=organic, BT=BIOSAMPLE)
MOANALUA WELLS	15-Apr-2024	0939	G	Water	Water
AIEA GULCH WELLS PUMP2	15-Apr-2024	1042	G	Water	Water
AIEA WELLS PUMPS 1&2 (260) P2	15-Apr-2024	1114	G	Water	Water
HALAWA WELLS UNITS 1&2 P1	15-Apr-2024	1010	G	Water	Water
FB MOANALUA WELLS	15-Apr-2024	0939		Water	Water
FB AIEA GULCH WELLS PUMP2	15-Apr-2024	1042		Water	Water
FB AIEA WELLS PUMPS 1&2 (260)	15-Apr-2024	1114		Water	Water
FB HALAWA WELLS UNITS 1&2	15-Apr-2024	1010		Water	Water
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III, IV Other (specify)		Date		Time	
Empty Kit Relinquished by		Date		Time	
Relinquished by <i>Cooley</i>		Date/Time 16/01/2024 1400		Method of Shipment FED Ex ② 7759 8430 8254	
Relinquished by		Date/Time		Company EEAF	
Relinquished by		Date/Time		Company	
Custody Seals Intact Δ Yes Δ No		Custody Seal No		Special Instructions/QC Requirements <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months ① 7759 8430 8243 ② 7759 8430 8254	
Cooler Temperature(s) °C and Other Remarks (F51A) ① 2.9 °C - 0.1 °C - 2.8 °C / ② 10 °C - 0.1 °C - 0.9 °C GEL-FROZEN					



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-91826-1
SDG Number: 525.2, 533, 537.1

Login Number: 91826
List Number: 1
Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

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

