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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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JOB DESCRIPTION

RED-HILL
Weekly PFAS

JOB NUMBER

380-107515-1

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: 380-107515-1
SDG: Weekly PFAS

Qualifiers

LCMS

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-107515-1

Job ID: 380-107515-1

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Job Narrative 380-107515-1

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 and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided 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 8/7/2024 10:32 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 1.7°C, 1.7°C, 1.8°C, 1.9°C and 2.2°C.

PFAS

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: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-107515-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 P2

Lab Sample ID: 380-107515-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-107515-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.7		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-107515-5

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-6

No Detections.

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

Lab Sample ID: 380-107515-7

No Detections.

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

Lab Sample ID: 380-107515-8

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: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-107515-1

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 23:01	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C6 PFDA	74		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C5 PFHxA	78		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C4 PFHpA	82		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C8 PFOA	78		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C9 PFNA	70		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C7 PFUnA	80		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C2 PFDoA	88		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C4 PFBA	90		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C5 PFPeA	90		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C3 PFBS	91		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C3 PFHxS	105		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C8 PFOS	103		50 - 200	08/09/24 14:16	08/10/24 23:01	1

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Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-107515-1

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

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	115		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C2-6:2-FTS	124		50 - 200	08/09/24 14:16	08/10/24 23:01	1
13C2-8:2-FTS	113		50 - 200	08/09/24 14:16	08/10/24 23:01	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		08/08/24 09:10	08/09/24 00:31	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:31	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	116		70 - 130	08/08/24 09:10	08/09/24 00:31	1		
13C2 PFHxA	108		70 - 130	08/08/24 09:10	08/09/24 00:31	1		
13C2 PFDA	106		70 - 130	08/08/24 09:10	08/09/24 00:31	1		
13C3-GenX	107		70 - 130	08/08/24 09:10	08/09/24 00:31	1		

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-2

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 21:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1

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Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-2

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 21:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	71		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C6 PFDA	83		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C5 PFHxA	75		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C4 PFHpA	81		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C8 PFOA	78		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C9 PFNA	75		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C7 PFUnA	90		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C2 PFDoA	96		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C4 PFBA	90		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C5 PFPeA	93		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C3 PFBS	99		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C3 PFHxS	109		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C8 PFOS	107		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C2-4:2-FTS	121		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C2-6:2-FTS	129		50 - 200	08/09/24 14:16	08/10/24 21:46	1
13C2-8:2-FTS	116		50 - 200	08/09/24 14:16	08/10/24 21:46	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		08/08/24 09:10	08/09/24 00:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-2

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

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		08/08/24 09:10	08/09/24 00:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130			08/08/24 09:10	08/09/24 00:42	1
13C2 PFHxA	99		70 - 130			08/08/24 09:10	08/09/24 00:42	1
13C2 PFDA	98		70 - 130			08/08/24 09:10	08/09/24 00:42	1
13C3-GenX	95		70 - 130			08/08/24 09:10	08/09/24 00:42	1

Client Sample ID: AIEA WELLS PUMPS 1&2 P2

Lab Sample ID: 380-107515-3

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 23:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: AIEA WELLS PUMPS 1&2 P2

Lab Sample ID: 380-107515-3

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 23:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C6 PFDA	94		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C5 PFHxA	87		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C4 PFHpA	91		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C8 PFOA	87		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C9 PFNA	86		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C7 PFUnA	98		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C2 PFDoA	103		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C4 PFBA	97		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C5 PFPeA	101		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C3 PFBS	95		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C3 PFHxS	111		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C8 PFOS	105		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C2-4:2-FTS	122		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C2-6:2-FTS	125		50 - 200	08/09/24 14:16	08/10/24 23:12	1
13C2-8:2-FTS	118		50 - 200	08/09/24 14:16	08/10/24 23:12	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		08/08/24 09:10	08/09/24 00:53	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: AIEA WELLS PUMPS 1&2 P2

Lab Sample ID: 380-107515-3

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

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		08/08/24 09:10	08/09/24 00:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 00:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEFOSAA	108		70 - 130			08/08/24 09:10	08/09/24 00:53	1
13C2 PFHxA	105		70 - 130			08/08/24 09:10	08/09/24 00:53	1
13C2 PFDA	99		70 - 130			08/08/24 09:10	08/09/24 00:53	1
13C3-GenX	96		70 - 130			08/08/24 09:10	08/09/24 00:53	1

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-107515-4

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 23:23	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorohexanoic acid (PFHxA)	2.4		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-107515-4

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoropentanoic acid (PFPeA)	2.7		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:23	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	75		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C6 PFDA	87		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C5 PFHxA	83		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C4 PFHpA	87		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C8 PFOA	85		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C9 PFNA	81		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C7 PFUnA	95		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C2 PFDoA	97		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C4 PFBA	97		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C5 PFPeA	101		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C3 PFBS	95		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C3 PFHxS	106		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C8 PFOS	106		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C2-4:2-FTS	127		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C2-6:2-FTS	137		50 - 200			08/09/24 14:16	08/10/24 23:23	1
13C2-8:2-FTS	118		50 - 200			08/09/24 14:16	08/10/24 23:23	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		08/08/24 09:10	08/09/24 01:04	1
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-107515-4

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130			08/08/24 09:10	08/09/24 01:04	1
13C2 PFHxA	108		70 - 130			08/08/24 09:10	08/09/24 01:04	1
13C2 PFDA	103		70 - 130			08/08/24 09:10	08/09/24 01:04	1
13C3-GenX	100		70 - 130			08/08/24 09:10	08/09/24 01:04	1

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-107515-5

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 23:33	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-107515-5

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:33	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C6 PFDA	107		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C5 PFHxA	99		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C4 PFHpA	106		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C8 PFOA	107		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C9 PFNA	99		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C7 PFUnA	112		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C2 PFDoA	115		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C4 PFBA	109		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C5 PFPeA	110		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C3 PFBS	95		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C3 PFHxS	110		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C8 PFOS	106		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C2-4:2-FTS	124		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C2-6:2-FTS	129		50 - 200			08/09/24 14:16	08/10/24 23:33	1
13C2-8:2-FTS	116		50 - 200			08/09/24 14:16	08/10/24 23:33	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		08/08/24 09:10	08/09/24 01:14	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	115		70 - 130			08/08/24 09:10	08/09/24 01:14	1
13C2 PFHxA	108		70 - 130			08/08/24 09:10	08/09/24 01:14	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-107515-5

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	101		70 - 130	08/08/24 09:10	08/09/24 01:14	1
13C3-GenX	101		70 - 130	08/08/24 09:10	08/09/24 01:14	1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-6

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/10/24 23:44	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/10/24 23:44	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
13C3 HFPO-DA	91		50 - 200	08/09/24 14:16	08/10/24 23:44	1		
13C6 PFDA	108		50 - 200	08/09/24 14:16	08/10/24 23:44	1		
13C5 PFHxA	102		50 - 200	08/09/24 14:16	08/10/24 23:44	1		
13C4 PFHpA	105		50 - 200	08/09/24 14:16	08/10/24 23:44	1		

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-6

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	106		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C9 PFNA	102		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C7 PFUnA	112		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C2 PFDoA	114		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C4 PFBA	109		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C5 PFPeA	111		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C3 PFBS	95		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C3 PFHxS	111		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C8 PFOS	109		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C2-4:2-FTS	125		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C2-6:2-FTS	130		50 - 200	08/09/24 14:16	08/10/24 23:44	1
13C2-8:2-FTS	113		50 - 200	08/09/24 14:16	08/10/24 23:44	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		08/08/24 09:10	08/09/24 01:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	115		70 - 130	08/08/24 09:10	08/09/24 01:25	1
13C2 PFHxA	107		70 - 130	08/08/24 09:10	08/09/24 01:25	1
13C2 PFDA	104		70 - 130	08/08/24 09:10	08/09/24 01:25	1
13C3-GenX	105		70 - 130	08/08/24 09:10	08/09/24 01:25	1

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-7

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/11/24 00:06	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:06	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C6 PFDA	106		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C5 PFHxA	98		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C4 PFHpA	105		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C8 PFOA	106		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C9 PFNA	102		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C7 PFUnA	107		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C2 PFDoA	114		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C4 PFBA	103		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C5 PFPeA	104		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C3 PFBS	95		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C3 PFHxS	108		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C8 PFOS	106		50 - 200	08/09/24 14:16	08/11/24 00:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-7

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

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	125		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C2-6:2-FTS	126		50 - 200	08/09/24 14:16	08/11/24 00:06	1
13C2-8:2-FTS	117		50 - 200	08/09/24 14:16	08/11/24 00:06	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		08/08/24 09:10	08/09/24 01:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:36	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	116		70 - 130	08/08/24 09:10	08/09/24 01:36	1		
13C2 PFHxA	99		70 - 130	08/08/24 09:10	08/09/24 01:36	1		
13C2 PFDA	98		70 - 130	08/08/24 09:10	08/09/24 01:36	1		
13C3-GenX	95		70 - 130	08/08/24 09:10	08/09/24 01:36	1		

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

Lab Sample ID: 380-107515-8

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/11/24 00:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-8

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

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		08/09/24 14:16	08/11/24 00:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/09/24 14:16	08/11/24 00:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C6 PFDA	107		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C5 PFHxA	101		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C4 PFHpA	107		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C8 PFOA	107		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C9 PFNA	100		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C7 PFUnA	109		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C2 PFDoA	115		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C4 PFBA	108		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C5 PFPeA	107		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C3 PFBS	94		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C3 PFHxS	108		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C8 PFOS	105		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C2-4:2-FTS	118		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C2-6:2-FTS	125		50 - 200	08/09/24 14:16	08/11/24 00:16	1
13C2-8:2-FTS	116		50 - 200	08/09/24 14:16	08/11/24 00:16	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		08/08/24 09:10	08/09/24 01:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-107515-1
 SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-8

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

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		08/08/24 09:10	08/09/24 01:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/08/24 09:10	08/09/24 01:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	118		70 - 130			08/08/24 09:10	08/09/24 01:47	1
13C2 PFHxA	105		70 - 130			08/08/24 09:10	08/09/24 01:47	1
13C2 PFDA	104		70 - 130			08/08/24 09:10	08/09/24 01:47	1
13C3-GenX	100		70 - 130			08/08/24 09:10	08/09/24 01:47	1

Action Limit Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-107515-1

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-2

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: AIEA WELLS PUMPS 1&2 P2

Lab Sample ID: 380-107515-3

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA

Action Limit Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-3

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			
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-107515-4

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.4		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-107515-5

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Action Limit Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-6

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

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

Lab Sample ID: 380-107515-7

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

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

Lab Sample ID: 380-107515-8

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			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA

Action Limit Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

**Client Sample ID: FB: HALAWA WELLS UNITS 1&2 P1
(Continued)**

Lab Sample ID: 380-107515-8

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			
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Surrogate Summary

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

Job ID: 380-107515-1
 SDG: Weekly PFAS

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-107408-B-1-A MS	Matrix Spike	109	100	107	94
380-107408-C-1-A MSD	Matrix Spike Duplicate	119	102	114	100
380-107515-1	MOANALUA WELLS	116	108	106	107
380-107515-2	AIEA GULCH WELLS PUMP 2	109	99	98	95
380-107515-3	AIEA WELLS PUMPS 1&2 P2	108	105	99	96
380-107515-4	HALAWA WELLS UNITS 1&2 P1	116	108	103	100
380-107515-5	FB: MOANALUA WELLS	115	108	101	101
380-107515-6	FB: AIEA GULCH WELLS PUMF 2	115	107	104	105
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	116	99	98	95
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	118	105	104	100
LCS 380-102844/24-A	Lab Control Sample	111	104	105	104
MBL 380-102844/22-A	Method Blank	117	109	109	104
MRL 380-102844/23-A	Lab Control Sample	115	109	107	103

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: 380-107515-1
SDG: Weekly PFAS

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)
380-107515-1	MOANALUA WELLS	72	74	78	82	78	70	80	88
380-107515-2	AIEA GULCH WELLS PUMP 2	71	83	75	81	78	75	90	96
380-107515-2 MS	AIEA GULCH WELLS PUMP 2	81	101	88	93	96	93	105	108
380-107515-2 MSD	AIEA GULCH WELLS PUMP 2	70	94	74	83	84	83	99	104
380-107515-3	AIEA WELLS PUMPS 1&2 P2	79	94	87	91	87	86	98	103
380-107515-4	HALAWA WELLS UNITS 1&2 P1	75	87	83	87	85	81	95	97
380-107515-5	FB: MOANALUA WELLS	89	107	99	106	107	99	112	115
380-107515-6	FB: AIEA GULCH WELLS PUMF 2	91	108	102	105	106	102	112	114
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	86	106	98	105	106	102	107	114
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	89	107	101	107	107	100	109	115
LCS 380-103103/22-A	Lab Control Sample	97	109	98	104	104	99	113	116
MBL 380-103103/20-A	Method Blank	87	103	97	104	101	97	106	109
MRL 380-103103/21-A	Lab Control Sample	92	106	97	103	105	99	108	113

		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)
380-107515-1	MOANALUA WELLS	90	90	91	105	103	115	124	113
380-107515-2	AIEA GULCH WELLS PUMP 2	90	93	99	109	107	121	129	116
380-107515-2 MS	AIEA GULCH WELLS PUMP 2	95	100	98	107	106	113	126	113
380-107515-2 MSD	AIEA GULCH WELLS PUMP 2	86	87	95	108	103	113	129	113
380-107515-3	AIEA WELLS PUMPS 1&2 P2	97	101	95	111	105	122	125	118
380-107515-4	HALAWA WELLS UNITS 1&2 P1	97	101	95	106	106	127	137	118
380-107515-5	FB: MOANALUA WELLS	109	110	95	110	106	124	129	116
380-107515-6	FB: AIEA GULCH WELLS PUMF 2	109	111	95	111	109	125	130	113
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	103	104	95	108	106	125	126	117
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	108	107	94	108	105	118	125	116
LCS 380-103103/22-A	Lab Control Sample	108	107	96	109	104	110	118	116
MBL 380-103103/20-A	Method Blank	105	104	95	105	104	113	120	112
MRL 380-103103/21-A	Lab Control Sample	104	105	95	107	104	110	125	116

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
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS

Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

42FTS = 13C2-4:2-FTS

62FTS = 13C2-6:2-FTS

82FTS = 13C2-8:2-FTS

Job ID: 380-107515-1

SDG: Weekly PFAS

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QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-103103/20-A
Matrix: Water
Analysis Batch: 103206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 103103

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/09/24 14:16	08/10/24 21:14	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	87		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C6 PFDA	103		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C5 PFHxA	97		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C4 PFHpA	104		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C8 PFOA	101		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C9 PFNA	97		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C7 PFUnA	106		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C2 PFDoA	109		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C4 PFBA	105		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C5 PFPeA	104		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C3 PFBS	95		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C3 PFHxS	105		50 - 200	08/09/24 14:16	08/10/24 21:14	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-103103/20-A
Matrix: Water
Analysis Batch: 103206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 103103

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	104		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C2-4:2-FTS	113		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C2-6:2-FTS	120		50 - 200	08/09/24 14:16	08/10/24 21:14	1
13C2-8:2-FTS	112		50 - 200	08/09/24 14:16	08/10/24 21:14	1

Lab Sample ID: LCS 380-103103/22-A
Matrix: Water
Analysis Batch: 103206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 103103

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	137		ng/L		114	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	125		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	121		ng/L		101	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	119		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	131		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	120	123		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	120	126		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	120		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	121		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	120	128		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	120	126		ng/L		105	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	129		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	120	123		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	124		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	120	122		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	121		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	119		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	121		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	150		ng/L		125	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	125		ng/L		104	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	121		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	122		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	120	119		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	128		ng/L		106	70 - 130

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QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: LCS 380-103103/22-A
Matrix: Water
Analysis Batch: 103206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 103103

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	116		ng/L		97	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	97		50 - 200				
13C6 PFDA	109		50 - 200				
13C5 PFHxA	98		50 - 200				
13C4 PFHpA	104		50 - 200				
13C8 PFOA	104		50 - 200				
13C9 PFNA	99		50 - 200				
13C7 PFUnA	113		50 - 200				
13C2 PFDoA	116		50 - 200				
13C4 PFBA	108		50 - 200				
13C5 PFPeA	107		50 - 200				
13C3 PFBS	96		50 - 200				
13C3 PFHxS	109		50 - 200				
13C8 PFOS	104		50 - 200				
13C2-4:2-FTS	110		50 - 200				
13C2-6:2-FTS	118		50 - 200				
13C2-8:2-FTS	116		50 - 200				

Lab Sample ID: MRL 380-103103/21-A
Matrix: Water
Analysis Batch: 103206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 103103

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.40	J	ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.27	J	ng/L		113	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.16	J	ng/L		108	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.53	J	ng/L		126	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.37	J	ng/L		118	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.26	J	ng/L		113	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.26	J	ng/L		113	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.37	J	ng/L		118	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.19	J	ng/L		109	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-103103/21-A
Matrix: Water
Analysis Batch: 103206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 103103

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.41	J	ng/L		121	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.47	J	ng/L		123	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.60	J	ng/L		130	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.63	J	ng/L		131	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.45	J	ng/L		122	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.27	J	ng/L		113	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.29	J	ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.12	J	ng/L		106	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	92		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	97		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	99		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	113		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	95		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	125		50 - 200
13C2-8:2-FTS	116		50 - 200

Lab Sample ID: 380-107515-2 MS
Matrix: Water
Analysis Batch: 103206

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 103103

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		60.1	67.2		ng/L		112	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	62.9		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	58.3		ng/L		97	70 - 130

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-2 MS

Client Sample ID: AIEA GULCH WELLS PUMP 2

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 103206

Prep Batch: 103103

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.1	65.7		ng/L		109	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	67.0		ng/L		111	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	65.0		ng/L		108	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	65.4		ng/L		109	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	60.7		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	62.9		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	65.0		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	65.3		ng/L		109	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	66.7		ng/L		111	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.1	63.8		ng/L		106	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	66.5		ng/L		111	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.1	64.7		ng/L		108	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	67.1		ng/L		112	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	66.6		ng/L		111	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	66.2		ng/L		110	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	65.6		ng/L		109	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.1	62.4		ng/L		104	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	64.3		ng/L		107	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	59.3		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	60.3		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	64.3		ng/L		107	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	61.7		ng/L		103	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	81		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	88		50 - 200
13C4 PFHpA	93		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	93		50 - 200
13C7 PFUnA	105		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	95		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	98		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	106		50 - 200

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-107515-2 MS
Matrix: Water
Analysis Batch: 103206

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 103103

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	113		50 - 200
13C2-6:2-FTS	126		50 - 200
13C2-8:2-FTS	113		50 - 200

Lab Sample ID: 380-107515-2 MSD
Matrix: Water
Analysis Batch: 103206

Client Sample ID: AIEA GULCH WELLS PUMP 2
Prep Type: Total/NA
Prep Batch: 103103

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	66.8		ng/L		111	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	62.7		ng/L		104	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	54.5		ng/L		91	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	57.1		ng/L		95	70 - 130	14	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	65.0		ng/L		108	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		60.1	61.8		ng/L		103	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	64.3		ng/L		107	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	58.6		ng/L		97	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	60.5		ng/L		100	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	65.2		ng/L		108	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		60.1	63.1		ng/L		105	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	65.0		ng/L		108	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		60.1	62.5		ng/L		104	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	63.3		ng/L		105	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		60.1	61.9		ng/L		103	70 - 130	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	65.6		ng/L		109	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	62.6		ng/L		104	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	61.6		ng/L		102	70 - 130	7	30
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	68.0		ng/L		113	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	64.9		ng/L		108	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	61.4		ng/L		102	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	56.3		ng/L		94	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	62.0		ng/L		102	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	64.3		ng/L		107	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	58.9		ng/L		98	70 - 130	5	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	70		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	74		50 - 200
13C4 PFHpA	83		50 - 200
13C8 PFOA	84		50 - 200
13C9 PFNA	83		50 - 200
13C7 PFUnA	99		50 - 200
13C2 PFDoA	104		50 - 200
13C4 PFBA	86		50 - 200
13C5 PFPeA	87		50 - 200
13C3 PFBS	95		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	113		50 - 200
13C2-6:2-FTS	129		50 - 200
13C2-8:2-FTS	113		50 - 200

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

Lab Sample ID: MBL 380-102844/22-A
Matrix: Water
Analysis Batch: 102962

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 102844

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/08/24 09:10	08/08/24 21:29	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	117		70 - 130			08/08/24 09:10	08/08/24 21:29	1
13C2 PFHxA	109		70 - 130			08/08/24 09:10	08/08/24 21:29	1
13C2 PFDA	109		70 - 130			08/08/24 09:10	08/08/24 21:29	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-102844/22-A
Matrix: Water
Analysis Batch: 102962

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 102844

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	104		70 - 130	08/08/24 09:10	08/08/24 21:29	1

Lab Sample ID: LCS 380-102844/24-A
Matrix: Water
Analysis Batch: 102962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 102844

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Hexafluoropropylene Oxide	25.1	25.4		ng/L		102	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	25.1	27.8		ng/L		111	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	26.9		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	27.5		ng/L		110	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	28.5		ng/L		114	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	27.4		ng/L		110	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	26.0		ng/L		104	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	27.3		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	26.3		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	29.3		ng/L		117	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	25.2		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	28.1		ng/L		112	70 - 130
Perfluorononanoic acid (PFNA)	25.1	28.5		ng/L		114	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	26.6		ng/L		106	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	25.9		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	25.8		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	27.3		ng/L		109	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	24.7		ng/L		98	70 - 130

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	111		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	104		70 - 130

QC Sample Results

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

Job ID: 380-107515-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-102844/23-A
Matrix: Water
Analysis Batch: 102962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 102844

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.18	J	ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.53	J	ng/L		126	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.40	J	ng/L		119	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.44	J	ng/L		122	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.56	J	ng/L		128	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.44	J	ng/L		122	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.39	J	ng/L		119	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.37	J	ng/L		118	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.29	J	ng/L		114	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.53	J	ng/L		126	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.19	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.53	J	ng/L		126	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.58	J	ng/L		128	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	2.63	J	ng/L		131	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.34	J	ng/L		117	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.16	J	ng/L		108	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.36	J	ng/L		117	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.22	J	ng/L		111	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	115		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	103		70 - 130

Lab Sample ID: 380-107408-B-1-A MS
Matrix: Water
Analysis Batch: 102962

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 102844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	24.3		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.9		ng/L		109	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.7		ng/L		111	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	28.0		ng/L		112	70 - 130

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

LCMS

Prep Batch: 102844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-107515-1	MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-107515-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-107515-3	AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	537.1 DW	
380-107515-4	HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1 DW	
380-107515-5	FB: MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-107515-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1 DW	
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	537.1 DW	
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1 DW	
MBL 380-102844/22-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-102844/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-102844/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-107408-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-107408-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 102962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-107515-1	MOANALUA WELLS	Total/NA	Water	537.1	102844
380-107515-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	102844
380-107515-3	AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	537.1	102844
380-107515-4	HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1	102844
380-107515-5	FB: MOANALUA WELLS	Total/NA	Water	537.1	102844
380-107515-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	537.1	102844
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	537.1	102844
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	537.1	102844
MBL 380-102844/22-A	Method Blank	Total/NA	Water	537.1	102844
LCS 380-102844/24-A	Lab Control Sample	Total/NA	Water	537.1	102844
MRL 380-102844/23-A	Lab Control Sample	Total/NA	Water	537.1	102844
380-107408-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	102844
380-107408-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	102844

Prep Batch: 103103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-107515-1	MOANALUA WELLS	Total/NA	Water	533	
380-107515-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-107515-3	AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	533	
380-107515-4	HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	533	
380-107515-5	FB: MOANALUA WELLS	Total/NA	Water	533	
380-107515-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	533	
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	533	
MBL 380-103103/20-A	Method Blank	Total/NA	Water	533	
LCS 380-103103/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-103103/21-A	Lab Control Sample	Total/NA	Water	533	
380-107515-2 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	
380-107515-2 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	

Analysis Batch: 103206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-107515-1	MOANALUA WELLS	Total/NA	Water	533	103103
380-107515-2	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	103103
380-107515-3	AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	533	103103

QC Association Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

LCMS (Continued)

Analysis Batch: 103206 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-107515-4	HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	533	103103
380-107515-5	FB: MOANALUA WELLS	Total/NA	Water	533	103103
380-107515-6	FB: AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	103103
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	Total/NA	Water	533	103103
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	Total/NA	Water	533	103103
MBL 380-103103/20-A	Method Blank	Total/NA	Water	533	103103
LCS 380-103103/22-A	Lab Control Sample	Total/NA	Water	533	103103
MRL 380-103103/21-A	Lab Control Sample	Total/NA	Water	533	103103
380-107515-2 MS	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	103103
380-107515-2 MSD	AIEA GULCH WELLS PUMP 2	Total/NA	Water	533	103103



Lab Chronicle

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-107515-1

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/10/24 23:01
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 00:31

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-2

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/10/24 21:46
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 00:42

Client Sample ID: AIEA WELLS PUMPS 1&2 P2

Lab Sample ID: 380-107515-3

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/10/24 23:12
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 00:53

Client Sample ID: HALAWA WELLS UNITS 1&2 P1

Lab Sample ID: 380-107515-4

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/10/24 23:23
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 01:04

Client Sample ID: FB: MOANALUA WELLS

Lab Sample ID: 380-107515-5

Date Collected: 08/05/24 09:48

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/10/24 23:33
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 01:14

Lab Chronicle

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-107515-6

Date Collected: 08/05/24 10:50

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/10/24 23:44
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 01:25

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

Lab Sample ID: 380-107515-7

Date Collected: 08/05/24 11:14

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/11/24 00:06
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 01:36

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

Lab Sample ID: 380-107515-8

Date Collected: 08/05/24 10:22

Matrix: Water

Date Received: 08/07/24 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			103103	N8NE	EA POM	08/09/24 14:16
Total/NA	Analysis	533		1	103206	M7ML	EA POM	08/11/24 00:16
Total/NA	Prep	537.1 DW			102844	A5GB	EA POM	08/08/24 09:10
Total/NA	Analysis	537.1		1	102962	Y5FM	EA POM	08/09/24 01:47

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: 380-107515-1
SDG: Weekly PFAS

Laboratory: Eurofins Eaton Analytical Pomona

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-25

- 1
- 2
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Method Summary

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

Job ID: 380-107515-1
SDG: Weekly PFAS

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	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: 380-107515-1
SDG: Weekly PFAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-107515-1	MOANALUA WELLS	Water	08/05/24 09:48	08/07/24 10:32
380-107515-2	AIEA GULCH WELLS PUMP 2	Water	08/05/24 10:50	08/07/24 10:32
380-107515-3	AIEA WELLS PUMPS 1&2 P2	Water	08/05/24 11:14	08/07/24 10:32
380-107515-4	HALAWA WELLS UNITS 1&2 P1	Water	08/05/24 10:22	08/07/24 10:32
380-107515-5	FB: MOANALUA WELLS	Water	08/05/24 09:48	08/07/24 10:32
380-107515-6	FB: AIEA GULCH WELLS PUMP 2	Water	08/05/24 10:50	08/07/24 10:32
380-107515-7	FB: AIEA WELLS PUMPS 1&2 P2	Water	08/05/24 11:14	08/07/24 10:32
380-107515-8	FB: HALAWA WELLS UNITS 1&2 P1	Water	08/05/24 10:22	08/07/24 10:32

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Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia CA 91016
 Phone (626) 366-1100

Chain of Custody Record



Client Information Client Contact: Dr. Ron Fenstermacher Company: Dr. Ron Fenstermacher City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State, Zip: HI 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Lab PM: Arada Rachelle E-Mail: Rachelle.Arada@et.euronorus.com State of Origin:		Carrier Tracking No(s): 380-27941 27572 Page: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: Δ No PO #: C20525101 exp 05312023 WO #:		Analysis Requested 537 1, DM, PREC 525 2, PREC (MOD) 526plus PLUS TICs C18 80158_DRO_LL_CS HNL Ranges C10-C24/C24-C36/C8- 80158_GRO_LL (MOD) GRO SUBCONTRACT 625 PAH Physis LL (EAL) + TICs Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Total Number of Containers:		Preservation Codes: A HCL M Hexane N None O AsNaO2 P Zn Acetate Q Na2SO4 R NaHSO4 S MeOH T TSP Dodecahydrate U Acetone V MCAA W pH 4-5 X Trizma Y Trizma Z other (specify) Other:	
Sample Identification Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (Water, Soil, Gas, etc.) Preservation Code Method of Shipment:		MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260) P2 HALAWA WELLS UNITS 1&2 P1 FB MOANALUA WELLS FB AIEA GULCH WELLS PUMP2 FB AIEA WELLS PUMPS 1&2 (260) FB HALAWA WELLS UNITS 1&2		chlorinated chlorinated 03338 2724 4003 (ASIN) 1.9'-0.1" = 1.8' 03338 2724 4014 (ASIN) 2.3'-0.1" = 2.2' 03338 2724 4025 (ASIN) 1.8'-0.1" = 1.7' 03338 2724 4036 (ASIN) 1.8'-0.1" = 1.7' 03338 2724 4047	
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		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Special Instructions/QC Requirements	
Empty Kit Relinquished by Relinquished by Relinquished by		Date Date/Time Date/Time Date/Time		Method of Shipment: FED EX 5 COOLERS Received by: A. PETER Date/Time: 08/07/2024 10:32 Company: EEAF Received by: CEL-FROZEN Date/Time: (ASIN) 2.0'-0.1" = 1.9' Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No		Ver 01 16 7019	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-107515-1

SDG Number: Weekly PFAS

Login Number: 107515

List Number: 1

Creator: Do, Michelle

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is 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	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

