

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

ANALYTICAL REPORT

PREPARED FOR

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

Generated 10/8/2024 3:39:16 PM

JOB DESCRIPTION

RED-HILL
Weekly PFAS
RUSH Weekly Red Hill

JOB NUMBER

380-115789-1

Eurofins Eaton Analytical Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Compliance Statement

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

Authorization



Generated
10/8/2024 3:39:16 PM

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



Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	23
Surrogate Summary	27
Isotope Dilution Summary	28
QC Sample Results	30
QC Association Summary	41
Lab Chronicle	43
Certification Summary	45
Method Summary	46
Sample Summary	47
Chain of Custody	48
Receipt Checklists	49

Definitions/Glossary

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

Job ID: 380-115789-1
SDG: Weekly PFAS

Qualifiers

LCMS

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

Glossary

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

Case Narrative

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

Job ID: 380-115789-1

Job ID: 380-115789-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-115789-1

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 10/2/2024 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.2°C, 4.0°C and 5.2°C.

PFAS

Methods EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results. HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065) (380-115789-1).

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: 380-115789-1
SDG: Weekly PFAS

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**
PWSID Number: HI0000331

Lab Sample ID: 380-115789-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L	1		537.1	Total/NA

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

Lab Sample ID: 380-115789-2

No Detections.

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

Lab Sample ID: 380-115789-3

No Detections.

Client Sample ID: KA'AMILO WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-115789-4

No Detections.

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

Lab Sample ID: 380-115789-5

No Detections.

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

Lab Sample ID: 380-115789-6

No Detections.

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

Lab Sample ID: 380-115789-7

No Detections.

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-115789-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-115789-1

Date Collected: 09/30/24 09:44

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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		10/05/24 07:37	10/06/24 08:06	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorohexanesulfonic acid (PFHxS)	2.2		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoropentanoic acid (PFPeA)	2.5		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:06	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	81		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C6 PFDA	93		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C5 PFHxA	92		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C4 PFHpA	93		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C8 PFOA	94		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C9 PFNA	98		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C7 PFUnA	82		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C2 PFDoA	61		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C4 PFBA	99		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C5 PFPeA	93		50 - 200			10/05/24 07:37	10/06/24 08:06	1
13C3 PFBS	107		50 - 200			10/05/24 07:37	10/06/24 08:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-115789-1

Date Collected: 09/30/24 09:44

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	102		50 - 200	10/05/24 07:37	10/06/24 08:06	1
13C8 PFOS	104		50 - 200	10/05/24 07:37	10/06/24 08:06	1
13C2-4:2-FTS	113		50 - 200	10/05/24 07:37	10/06/24 08:06	1
13C2-6:2-FTS	102		50 - 200	10/05/24 07:37	10/06/24 08:06	1
13C2-8:2-FTS	97		50 - 200	10/05/24 07:37	10/06/24 08:06	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		10/04/24 14:20	10/06/24 00:12	1
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	118		70 - 130	10/04/24 14:20	10/06/24 00:12	1
13C2 PFHxA	116		70 - 130	10/04/24 14:20	10/06/24 00:12	1
13C2 PFDA	111		70 - 130	10/04/24 14:20	10/06/24 00:12	1
13C3-GenX	112		70 - 130	10/04/24 14:20	10/06/24 00:12	1

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

Lab Sample ID: 380-115789-2

Date Collected: 09/30/24 10:19

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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		10/05/24 07:37	10/06/24 08:16	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
 SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-2

Date Collected: 09/30/24 10:19

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6 2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	82		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C6 PFDA	69		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C5 PFHxA	83		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C4 PFHpA	80		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C8 PFOA	76		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C9 PFNA	73		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C7 PFUnA	79		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C2 PFDoA	80		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C4 PFBA	89		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C5 PFPeA	85		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C3 PFBS	112		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C3 PFHxS	111		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C8 PFOS	113		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C2-4:2-FTS	95		50 - 200	10/05/24 07:37	10/06/24 08:16	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-2

Date Collected: 09/30/24 10:19

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-6:2-FTS	95		50 - 200	10/05/24 07:37	10/06/24 08:16	1
13C2-8:2-FTS	97		50 - 200	10/05/24 07:37	10/06/24 08:16	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		10/04/24 14:20	10/06/24 02:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130	10/04/24 14:20	10/06/24 02:42	1
13C2 PFHxA	118		70 - 130	10/04/24 14:20	10/06/24 02:42	1
13C2 PFDA	106		70 - 130	10/04/24 14:20	10/06/24 02:42	1
13C3-GenX	107		70 - 130	10/04/24 14:20	10/06/24 02:42	1

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

Lab Sample ID: 380-115789-3

Date Collected: 09/30/24 10:43

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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		10/05/24 07:37	10/06/24 08:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-3

Date Collected: 09/30/24 10:43

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:27	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	84		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C6 PFDA	62		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C5 PFHxA	88		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C4 PFHpA	86		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C8 PFOA	78		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C9 PFNA	68		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C7 PFUnA	65		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C2 PFDoA	70		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C4 PFBA	90		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C5 PFPeA	89		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C3 PFBS	105		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C3 PFHxS	107		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C8 PFOS	110		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C2-4:2-FTS	90		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C2-6:2-FTS	88		50 - 200			10/05/24 07:37	10/06/24 08:27	1
13C2-8:2-FTS	89		50 - 200			10/05/24 07:37	10/06/24 08:27	1

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-3

Date Collected: 09/30/24 10:43

Matrix: Drinking Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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		10/04/24 14:20	10/06/24 02:53	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 02:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130			10/04/24 14:20	10/06/24 02:53	1
13C2 PFHxA	120		70 - 130			10/04/24 14:20	10/06/24 02:53	1
13C2 PFDA	108		70 - 130			10/04/24 14:20	10/06/24 02:53	1
13C3-GenX	110		70 - 130			10/04/24 14:20	10/06/24 02:53	1

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-115789-4

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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		10/05/24 07:37	10/06/24 08:38	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-115789-4

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:38	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	83		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C6 PFDA	85		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C5 PFHxA	90		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C4 PFHpA	86		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C8 PFOA	86		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C9 PFNA	84		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C7 PFUnA	89		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C2 PFDoA	93		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C4 PFBA	89		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C5 PFPeA	88		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C3 PFBS	117		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C3 PFHxS	115		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C8 PFOS	114		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C2-4:2-FTS	104		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C2-6:2-FTS	94		50 - 200			10/05/24 07:37	10/06/24 08:38	1
13C2-8:2-FTS	100		50 - 200			10/05/24 07:37	10/06/24 08:38	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-115789-4

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	117		70 - 130			10/04/24 14:20	10/06/24 03:04	1
13C2 PFHxA	118		70 - 130			10/04/24 14:20	10/06/24 03:04	1
13C2 PFDA	112		70 - 130			10/04/24 14:20	10/06/24 03:04	1
13C3-GenX	118		70 - 130			10/04/24 14:20	10/06/24 03:04	1

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

Lab Sample ID: 380-115789-5

Date Collected: 09/30/24 09:44

Matrix: Water

Date Received: 10/02/24 10:20

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		10/05/24 07:37	10/06/24 08:49	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-5

Date Collected: 09/30/24 09:44

Matrix: Water

Date Received: 10/02/24 10:20

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-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 08:49	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	111		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C6 PFDA	105		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C5 PFHxA	114		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C4 PFHpA	111		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C8 PFOA	114		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C9 PFNA	113		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C7 PFUnA	109		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C2 PFDoA	107		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C4 PFBA	112		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C5 PFPeA	109		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C3 PFBS	112		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C3 PFHxS	112		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C8 PFOS	112		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C2-4:2-FTS	89		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C2-6:2-FTS	87		50 - 200			10/05/24 07:37	10/06/24 08:49	1
13C2-8:2-FTS	88		50 - 200			10/05/24 07:37	10/06/24 08:49	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-5

Date Collected: 09/30/24 09:44

Matrix: Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	119		70 - 130			10/04/24 14:20	10/06/24 03:15	1
13C2 PFHxA	117		70 - 130			10/04/24 14:20	10/06/24 03:15	1
13C2 PFDA	106		70 - 130			10/04/24 14:20	10/06/24 03:15	1
13C3-GenX	113		70 - 130			10/04/24 14:20	10/06/24 03:15	1

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

Lab Sample ID: 380-115789-6

Date Collected: 09/30/24 10:19

Matrix: Water

Date Received: 10/02/24 10:20

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		10/05/24 07:37	10/06/24 09:00	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-6

Date Collected: 09/30/24 10:19

Matrix: Water

Date Received: 10/02/24 10:20

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		10/05/24 07:37	10/06/24 09:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:00	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C6 PFDA	106		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C5 PFHxA	115		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C4 PFHpA	108		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C8 PFOA	113		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C9 PFNA	110		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C7 PFUnA	107		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C2 PFDoA	105		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C4 PFBA	112		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C5 PFPeA	108		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C3 PFBS	104		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C3 PFHxS	107		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C8 PFOS	110		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C2-4:2-FTS	93		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C2-6:2-FTS	87		50 - 200			10/05/24 07:37	10/06/24 09:00	1
13C2-8:2-FTS	90		50 - 200			10/05/24 07:37	10/06/24 09:00	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		10/04/24 14:20	10/06/24 03:26	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-6

Date Collected: 09/30/24 10:19

Matrix: Water

Date Received: 10/02/24 10:20

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		10/04/24 14:20	10/06/24 03:26	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	123		70 - 130			10/04/24 14:20	10/06/24 03:26	1
13C2 PFHxA	129		70 - 130			10/04/24 14:20	10/06/24 03:26	1
13C2 PFDA	116		70 - 130			10/04/24 14:20	10/06/24 03:26	1
13C3-GenX	123		70 - 130			10/04/24 14:20	10/06/24 03:26	1

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

Lab Sample ID: 380-115789-7

Date Collected: 09/30/24 10:43

Matrix: Water

Date Received: 10/02/24 10:20

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		10/05/24 07:37	10/06/24 09:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-7

Date Collected: 09/30/24 10:43

Matrix: Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:10	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C6 PFDA	108		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C5 PFHxA	115		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C4 PFHpA	113		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C8 PFOA	115		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C9 PFNA	113		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C7 PFUnA	111		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C2 PFDoA	110		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C4 PFBA	112		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C5 PFPeA	103		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C3 PFBS	109		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C3 PFHxS	114		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C8 PFOS	116		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C2-4:2-FTS	98		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C2-6:2-FTS	90		50 - 200			10/05/24 07:37	10/06/24 09:10	1
13C2-8:2-FTS	89		50 - 200			10/05/24 07:37	10/06/24 09:10	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		10/04/24 14:20	10/06/24 03:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-7

Date Collected: 09/30/24 10:43

Matrix: Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	124		70 - 130			10/04/24 14:20	10/06/24 03:36	1
13C2 PFHxA	124		70 - 130			10/04/24 14:20	10/06/24 03:36	1
13C2 PFDA	114		70 - 130			10/04/24 14:20	10/06/24 03:36	1
13C3-GenX	125		70 - 130			10/04/24 14:20	10/06/24 03:36	1

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-115789-8

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-115789-8

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		10/05/24 07:37	10/06/24 09:21	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C6 PFDA	104		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C5 PFHxA	112		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C4 PFHpA	109		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C8 PFOA	109		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C9 PFNA	106		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C7 PFUnA	105		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C2 PFDoA	102		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C4 PFBA	109		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C5 PFPeA	102		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C3 PFBS	108		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C3 PFHxS	108		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C8 PFOS	110		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C2-4:2-FTS	97		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C2-6:2-FTS	89		50 - 200			10/05/24 07:37	10/06/24 09:21	1
13C2-8:2-FTS	86		50 - 200			10/05/24 07:37	10/06/24 09:21	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		10/04/24 14:20	10/06/24 03:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/04/24 14:20	10/06/24 03:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			10/04/24 14:20	10/06/24 03:47	1
13C2 PFHxA	124		70 - 130			10/04/24 14:20	10/06/24 03:47	1
13C2 PFDA	109		70 - 130			10/04/24 14:20	10/06/24 03:47	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-115789-8

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

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

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C3-GenX	116		70 - 130	10/04/24 14:20	10/06/24 03:47	1

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

Action Limit Summary

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

Job ID: 380-115789-1
SDG: Weekly PFAS

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)
PWSID Number: HI0000331

Lab Sample ID: 380-115789-1

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)	2.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		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)	2.1		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)	2.5		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
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-115789-2

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 (260)
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-115789-3

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-3

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			
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: KA'AMILO WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-115789-4

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)	<2.0		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
(331-206-TP065)

Lab Sample ID: 380-115789-5

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-5

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	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 GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-115789-6

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 (260)
(331-203-TP400)**

Lab Sample ID: 380-115789-7

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-115789-1
 SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-7

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 Limit	RL	Method	Prep Type
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-115789-8

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 Limit	RL	Method	Prep Type
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

Surrogate Summary

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-115789-1	HALAWA WELLS UNITS 1 & 2 F	118	116	111	112
380-115789-1 MS	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	115	123	114	116
380-115789-1 MSD	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	117	114	103	107
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	110	118	106	107
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	116	120	108	110

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-115789-4	KA'AMILO WELLS	117	118	112	118
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	119	117	106	113
380-115789-6	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	123	129	116	123
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	124	124	114	125
380-115789-8	FB: KA'AMILO WELLS	108	124	109	116
LCS 380-111826/22-A	Lab Control Sample	111	114	108	103
MBL 380-111826/20-A	Method Blank	112	109	107	104
MRL 380-111826/21-A	Lab Control Sample	106	110	102	98

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: 380-115789-1
SDG: Weekly PFAS

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-115789-1	HALAWA WELLS UNITS 1 & 2 F	81	93	92	93	94	98	82	61
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	82	69	83	80	76	73	79	80
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	84	62	88	86	78	68	65	70

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-115789-1	HALAWA WELLS UNITS 1 & 2 F	99	93	107	102	104	113	102	97
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	89	85	112	111	113	95	95	97
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	90	89	105	107	110	90	88	89

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-115776-E-1-A MS	Matrix Spike	78	73	82	78	76	74	81	83
380-115776-F-1-A MSD	Matrix Spike Duplicate	60	50	67	63	62	56	56	68
380-115789-4	KA'AMILO WELLS	83	85	90	86	86	84	89	93
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	111	105	114	111	114	113	109	107
380-115789-6	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	105	106	115	108	113	110	107	105
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	107	108	115	113	115	113	111	110
380-115789-8	FB: KA'AMILO WELLS	99	104	112	109	109	106	105	102
LCS 380-111923/22-A	Lab Control Sample	110	109	110	114	112	112	112	108
MBL 380-111923/20-A	Method Blank	79	92	85	86	90	92	97	97
MRL 380-111923/21-A	Lab Control Sample	100	105	106	103	106	106	103	101

Isotope Dilution Summary

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

Job ID: 380-115789-1
 SDG: Weekly PFAS

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-115776-E-1-A MS	Matrix Spike	86	78	115	115	113	94	95	101
380-115776-F-1-A MSD	Matrix Spike Duplicate	72	70	108	107	109	93	111	102
380-115789-4	KA'AMILO WELLS	89	88	117	115	114	104	94	100
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	112	109	112	112	112	89	87	88
380-115789-6	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	112	108	104	107	110	93	87	90
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	112	103	109	114	116	98	90	89
380-115789-8	FB: KA'AMILO WELLS	109	102	108	108	110	97	89	86
LCS 380-111923/22-A	Lab Control Sample	114	109	111	105	107	94	88	87
MBL 380-111923/20-A	Method Blank	83	80	104	106	105	88	85	87
MRL 380-111923/21-A	Lab Control Sample	109	109	110	111	111	85	94	92

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
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-111923/20-A
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 111923

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		10/05/24 07:37	10/06/24 05:02	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		10/05/24 07:37	10/06/24 05:02	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C6 PFDA	92		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C5 PFHxA	85		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C4 PFHpA	86		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C8 PFOA	90		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C9 PFNA	92		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C7 PFUnA	97		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C2 PFDoA	97		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C4 PFBA	83		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C5 PFPeA	80		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C3 PFBS	104		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C3 PFHxS	106		50 - 200	10/05/24 07:37	10/06/24 05:02	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-111923/20-A
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 111923

<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	105		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C2-4:2-FTS	88		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C2-6:2-FTS	85		50 - 200	10/05/24 07:37	10/06/24 05:02	1
13C2-8:2-FTS	87		50 - 200	10/05/24 07:37	10/06/24 05:02	1

Lab Sample ID: LCS 380-111923/22-A
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111923

<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-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.0	54.4		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.0	54.9		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.0	54.9		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.0	55.1		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.0	54.5		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	60.0	54.5		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	60.0	57.8		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.0	54.9		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.0	54.8		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	60.0	57.0		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	60.0	55.4		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.0	55.5		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	60.0	57.7		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.0	56.4		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	60.0	55.3		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.0	57.8		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.0	56.5		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.0	57.5		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.0	53.8		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.0	54.1		ng/L		90	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.0	51.4		ng/L		86	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.0	57.4		ng/L		96	70 - 130
Perfluoropentanoic acid (PFPeA)	60.0	55.6		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.0	56.0		ng/L		93	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: LCS 380-111923/22-A
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.0	54.8		ng/L		91	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	110		50 - 200				
13C6 PFDA	109		50 - 200				
13C5 PFHxA	110		50 - 200				
13C4 PFHpA	114		50 - 200				
13C8 PFOA	112		50 - 200				
13C9 PFNA	112		50 - 200				
13C7 PFUnA	112		50 - 200				
13C2 PFDoA	108		50 - 200				
13C4 PFBA	114		50 - 200				
13C5 PFPeA	109		50 - 200				
13C3 PFBS	111		50 - 200				
13C3 PFHxS	105		50 - 200				
13C8 PFOS	107		50 - 200				
13C2-4:2-FTS	94		50 - 200				
13C2-6:2-FTS	88		50 - 200				
13C2-8:2-FTS	87		50 - 200				

Lab Sample ID: MRL 380-111923/21-A
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111923

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.73	J	ng/L		87	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.84	J	ng/L		92	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.02	J	ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.97	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.91	J	ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.82	J	ng/L		91	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.95	J	ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.90	J	ng/L		95	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.07	J	ng/L		104	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.07	J	ng/L		103	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-111923/21-A
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111923

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.08	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.45	J	ng/L		122	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	1.94	J	ng/L		97	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.86	J	ng/L		93	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	1.78	J	ng/L		89	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.91	J	ng/L		96	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.81	J	ng/L		91	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	111		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	85		50 - 200
13C2-6:2-FTS	94		50 - 200
13C2-8:2-FTS	92		50 - 200

Lab Sample ID: 380-115776-E-1-A MS
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 111923

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		60.4	53.7		ng/L		89	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	53.7		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	56.1		ng/L		93	70 - 130

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115776-E-1-A MS
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 111923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.4	54.7		ng/L		91	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	54.6		ng/L		90	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	57.3		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	60.9		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	58.5		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	53.2		ng/L		88	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	56.5		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	56.4		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	54.8		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	57.6		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	58.6		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	56.3		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	55.4		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	62.1		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	56.5		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	49.2		ng/L		82	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	51.8		ng/L		86	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	51.1		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	58.7		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	59.7		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	56.2		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	53.5		ng/L		89	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	78		50 - 200
13C6 PFDA	73		50 - 200
13C5 PFHxA	82		50 - 200
13C4 PFHpA	78		50 - 200
13C8 PFOA	76		50 - 200
13C9 PFNA	74		50 - 200
13C7 PFUnA	81		50 - 200
13C2 PFDoA	83		50 - 200
13C4 PFBA	86		50 - 200
13C5 PFPeA	78		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	115		50 - 200
13C8 PFOS	113		50 - 200

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115776-E-1-A MS
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 111923

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	94		50 - 200
13C2-6:2-FTS	95		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: 380-115776-F-1-A MSD
Matrix: Water
Analysis Batch: 111971

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 111923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	56.1		ng/L		93	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	57.6		ng/L		95	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	60.1		ng/L		100	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	59.0		ng/L		98	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	58.2		ng/L		96	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		60.4	61.1		ng/L		101	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	61.7		ng/L		102	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	61.7		ng/L		102	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	57.7		ng/L		96	70 - 130	8	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	58.0		ng/L		96	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		60.4	58.3		ng/L		97	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	56.5		ng/L		94	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		60.4	63.1		ng/L		104	70 - 130	9	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	60.6		ng/L		100	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		60.4	58.7		ng/L		97	70 - 130	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	55.7		ng/L		92	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	62.4		ng/L		103	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	60.1		ng/L		99	70 - 130	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	50.0		ng/L		83	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.4	54.8		ng/L		91	70 - 130	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	54.0		ng/L		89	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	56.7		ng/L		94	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	58.0		ng/L		96	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	58.2		ng/L		96	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	56.7		ng/L		94	70 - 130	6	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	60		50 - 200
13C6 PFDA	50		50 - 200
13C5 PFHxA	67		50 - 200
13C4 PFHpA	63		50 - 200
13C8 PFOA	62		50 - 200
13C9 PFNA	56		50 - 200
13C7 PFUnA	56		50 - 200
13C2 PFDoA	68		50 - 200
13C4 PFBA	72		50 - 200
13C5 PFPeA	70		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	93		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	102		50 - 200

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

Lab Sample ID: MBL 380-111826/20-A
Matrix: Water
Analysis Batch: 111964

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 111826

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		10/04/24 14:20	10/05/24 23:40	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		10/04/24 14:20	10/05/24 23:40	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	112		70 - 130			10/04/24 14:20	10/05/24 23:40	1
13C2 PFHxA	109		70 - 130			10/04/24 14:20	10/05/24 23:40	1
13C2 PFDA	107		70 - 130			10/04/24 14:20	10/05/24 23:40	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-111826/20-A
Matrix: Water
Analysis Batch: 111964

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 111826

<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	10/04/24 14:20	10/05/24 23:40	1

Lab Sample ID: LCS 380-111826/22-A
Matrix: Water
Analysis Batch: 111964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111826

<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 Dimer Acid (HFPO-DA/GenX)	50.1	42.6		ng/L		85	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.1	50.5		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	46.0		ng/L		92	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	49.5		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	48.0		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	44.4		ng/L		89	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	45.4		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	49.7		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	49.5		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	52.0		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	48.4		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	48.5		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	50.1	47.0		ng/L		94	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	45.0		ng/L		90	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	48.4		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	50.1	50.7		ng/L		101	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	53.5		ng/L		107	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	43.1		ng/L		86	70 - 130

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	111		70 - 130
13C2 PFHxA	114		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	103		70 - 130

QC Sample Results

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-111826/21-A
Matrix: Water
Analysis Batch: 111964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 111826

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.79	J	ng/L		90	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.15	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.99	J	ng/L		100	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.11	J	ng/L		105	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.15	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.94	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	1.99	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.10	J	ng/L		105	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.10	J	ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.06	J	ng/L		103	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	106		70 - 130
13C2 PFHxA	110		70 - 130
13C2 PFDA	102		70 - 130
13C3-GenX	98		70 - 130

Lab Sample ID: 380-115789-1 MS
Matrix: Drinking Water
Analysis Batch: 111964

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
Prep Type: Total/NA
Prep Batch: 111826

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	47.1		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.1		50.2	52.8		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	48.8		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	51.5		ng/L		103	70 - 130

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-115789-1
 SDG: Weekly PFAS

LCMS

Prep Batch: 111826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115789-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	537.1 DW	
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	537.1 DW	
380-115789-4	KA'AMILO WELLS	Total/NA	Water	537.1 DW	
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	537.1 DW	
380-115789-6	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	537.1 DW	
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	537.1 DW	
380-115789-8	FB: KA'AMILO WELLS	Total/NA	Water	537.1 DW	
MBL 380-111826/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-111826/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-111826/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-115789-1 MS	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	537.1 DW	
380-115789-1 MSD	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	537.1 DW	

Prep Batch: 111923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115789-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	533	
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	533	
380-115789-4	KA'AMILO WELLS	Total/NA	Water	533	
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	533	
380-115789-6	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	533	
380-115789-8	FB: KA'AMILO WELLS	Total/NA	Water	533	
MBL 380-111923/20-A	Method Blank	Total/NA	Water	533	
LCS 380-111923/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-111923/21-A	Lab Control Sample	Total/NA	Water	533	
380-115776-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-115776-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 111964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115789-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	537.1	111826
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	111826
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	537.1	111826
380-115789-4	KA'AMILO WELLS	Total/NA	Water	537.1	111826
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	537.1	111826
380-115789-6	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	537.1	111826
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	537.1	111826
380-115789-8	FB: KA'AMILO WELLS	Total/NA	Water	537.1	111826
MBL 380-111826/20-A	Method Blank	Total/NA	Water	537.1	111826
LCS 380-111826/22-A	Lab Control Sample	Total/NA	Water	537.1	111826
MRL 380-111826/21-A	Lab Control Sample	Total/NA	Water	537.1	111826
380-115789-1 MS	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	537.1	111826
380-115789-1 MSD	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	537.1	111826

Analysis Batch: 111971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115789-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01	Total/NA	Drinking Water	533	111923
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	111923
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP40C	Total/NA	Drinking Water	533	111923

QC Association Summary

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

Job ID: 380-115789-1
SDG: Weekly PFAS

LCMS (Continued)

Analysis Batch: 111971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-115789-4	KA'AMILO WELLS	Total/NA	Water	533	111923
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	533	111923
380-115789-6	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	111923
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	533	111923
380-115789-8	FB: KA'AMILO WELLS	Total/NA	Water	533	111923
MBL 380-111923/20-A	Method Blank	Total/NA	Water	533	111923
LCS 380-111923/22-A	Lab Control Sample	Total/NA	Water	533	111923
MRL 380-111923/21-A	Lab Control Sample	Total/NA	Water	533	111923
380-115776-E-1-A MS	Matrix Spike	Total/NA	Water	533	111923
380-115776-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	111923

Lab Chronicle

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

Job ID: 380-115789-1
SDG: Weekly PFAS

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
(331-206-TP065)**

Lab Sample ID: 380-115789-1

Date Collected: 09/30/24 09:44

Matrix: Drinking Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 08:06
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 00:12

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

Lab Sample ID: 380-115789-2

Date Collected: 09/30/24 10:19

Matrix: Drinking Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 08:16
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 02:42

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

Lab Sample ID: 380-115789-3

Date Collected: 09/30/24 10:43

Matrix: Drinking Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 08:27
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 02:53

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-115789-4

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 08:38
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 03:04

Lab Chronicle

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

Job ID: 380-115789-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-115789-5

Date Collected: 09/30/24 09:44

Matrix: Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 08:49
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 03:15

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

Lab Sample ID: 380-115789-6

Date Collected: 09/30/24 10:19

Matrix: Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 09:00
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 03:26

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

Lab Sample ID: 380-115789-7

Date Collected: 09/30/24 10:43

Matrix: Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 09:10
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 03:36

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-115789-8

Date Collected: 09/30/24 11:07

Matrix: Water

Date Received: 10/02/24 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			111923	XTD8	EA POM	10/05/24 07:37
Total/NA	Analysis	533		1	111971	M7ML	EA POM	10/06/24 09:21
Total/NA	Prep	537.1 DW			111826	N8NE	EA POM	10/04/24 14:20
Total/NA	Analysis	537.1		1	111964	M7ML	EA POM	10/06/24 03:47

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: 380-115789-1
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
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Method Summary

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

Job ID: 380-115789-1
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: 380-115789-1
 SDG: Weekly PFAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-115789-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	09/30/24 09:44	10/02/24 10:20	HI0000331
380-115789-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	09/30/24 10:19	10/02/24 10:20	HI0000331
380-115789-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	09/30/24 10:43	10/02/24 10:20	HI0000331
380-115789-4	KA'AMILO WELLS	Water	09/30/24 11:07	10/02/24 10:20	HI0000331
380-115789-5	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	09/30/24 09:44	10/02/24 10:20	
380-115789-6	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	09/30/24 10:19	10/02/24 10:20	
380-115789-7	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	09/30/24 10:43	10/02/24 10:20	
380-115789-8	FB: KA'AMILO WELLS	Water	09/30/24 11:07	10/02/24 10:20	

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-115789-1
SDG Number: Weekly PFAS

Login Number: 115789
List Number: 1
Creator: Gerfen, Chris

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	

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