

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS Moanalua Wells, Halawa Wells, Aiea Gulch Wells P1/P2, Aiea Wells Pump 1&2
RUSH Weekly Red Hill

JOB NUMBER

380-167107-1

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



Authorized for release by
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Definitions/Glossary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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: 380-167107-1

Job ID: 380-167107-1

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Job Narrative 380-167107-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 8/20/2025 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C.

PFAS

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) (380-167107-2). (XWB4)

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

Organic Prep

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

Detection Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-167107-2

(331-206-TP065)

PWSID Number: HI0000331

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-167107-3

(331-201-TP071)

PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-167107-4

(331-202-TP072)

PWSID Number: HI0000331

No Detections.

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

Lab Sample ID: 380-167107-5

(331-203-TP400)

PWSID Number: HI0000331

No Detections.

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

Lab Sample ID: 380-167107-6

PWSID Number: HI0000331

No Detections.

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

Lab Sample ID: 380-167107-7

(331-206-TP065)

PWSID Number: HI0000331

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-167107-8

(331-201-TP071)

PWSID Number: HI0000331

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-167107-9

(331-202-TP072)

PWSID Number: HI0000331

No Detections.

This Detection Summary does not include radiochemical test results.

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Detection Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

PWSID Number: HI0000331

Lab Sample ID: 380-167107-10

☐ No Detections

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

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-1

Date Collected: 08/18/25 09:46

Matrix: Drinking Water

Date Received: 08/20/25 10:00

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-oxaundecan e-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:08	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C6 PFDA	107		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C5 PFHxA	107		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C4 PFHpA	111		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C8 PFOA	109		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C9 PFNA	108		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C7 PFUnA	108		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C2 PFDoA	110		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C4 PFBA	109		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C5 PFPeA	114		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C3 PFBS	111		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C3 PFHxS	109		50 - 200	08/21/25 19:27	08/22/25 18:08	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-1

Date Collected: 08/18/25 09:46

Matrix: Drinking Water

Date Received: 08/20/25 10:00

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	112		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C2-4:2-FTS	106		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C2-6:2-FTS	110		50 - 200	08/21/25 19:27	08/22/25 18:08	1
13C2-8:2-FTS	101		50 - 200	08/21/25 19:27	08/22/25 18:08	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	114		70 - 130	08/21/25 03:35	08/21/25 20:45	1
13C2 PFHxA	113		70 - 130	08/21/25 03:35	08/21/25 20:45	1
13C2 PFDA	113		70 - 130	08/21/25 03:35	08/21/25 20:45	1
13C3-GenX	117		70 - 130	08/21/25 03:35	08/21/25 20:45	1

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

Lab Sample ID: 380-167107-2

Date Collected: 08/18/25 10:12

Matrix: Drinking Water

Date Received: 08/20/25 10:00

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		08/21/25 19:27	08/22/25 18:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-2

**Date Collected: 08/18/25 10:12
Date Received: 08/20/25 10:00**

**Matrix: Drinking Water
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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoropentanoic acid (PFPeA)	2.1		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:18	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C6 PFDA	114		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C5 PFHxA	104		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C4 PFHpA	110		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C8 PFOA	111		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C9 PFNA	109		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C7 PFUnA	109		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C2 PFDoA	113		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C4 PFBA	111		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C5 PFPeA	113		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C3 PFBS	111		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C3 PFHxS	103		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C8 PFOS	109		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C2-4:2-FTS	103		50 - 200	08/21/25 19:27	08/22/25 18:18	1
13C2-6:2-FTS	106		50 - 200	08/21/25 19:27	08/22/25 18:18	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-2

Date Collected: 08/18/25 10:12
Date Received: 08/20/25 10:00

Matrix: Drinking Water
PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	104		50 - 200	08/21/25 19:27	08/22/25 18:18	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 20:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	119		70 - 130			08/21/25 03:35	08/21/25 20:55	1
13C2 PFHxA	115		70 - 130			08/21/25 03:35	08/21/25 20:55	1
13C2 PFDA	119		70 - 130			08/21/25 03:35	08/21/25 20:55	1
13C3-GenX	112		70 - 130			08/21/25 03:35	08/21/25 20:55	1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-167107-3

Date Collected: 08/18/25 10:40
Date Received: 08/20/25 10:00

Matrix: Drinking Water
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		08/21/25 19:27	08/22/25 18:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-167107-3

**Date Collected: 08/18/25 10:40
Date Received: 08/20/25 10:00**

**Matrix: Drinking Water
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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C6 PFDA	107		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C5 PFHxA	106		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C4 PFHpA	109		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C8 PFOA	108		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C9 PFNA	107		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C7 PFUnA	109		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C2 PFDoA	109		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C4 PFBA	109		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C5 PFPeA	109		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C3 PFBS	108		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C3 PFHxS	104		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C8 PFOS	107		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C2-4:2-FTS	100		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C2-6:2-FTS	104		50 - 200	08/21/25 19:27	08/22/25 18:29	1
13C2-8:2-FTS	103		50 - 200	08/21/25 19:27	08/22/25 18:29	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)

Lab Sample ID: 380-167107-3

Date Collected: 08/18/25 10:40
Date Received: 08/20/25 10:00

Matrix: Drinking Water
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		08/21/25 03:35	08/21/25 21:14	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130			08/21/25 03:35	08/21/25 21:14	1
13C2 PFHxA	117		70 - 130			08/21/25 03:35	08/21/25 21:14	1
13C2 PFDA	120		70 - 130			08/21/25 03:35	08/21/25 21:14	1
13C3-GenX	116		70 - 130			08/21/25 03:35	08/21/25 21:14	1

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

Lab Sample ID: 380-167107-4

Date Collected: 08/18/25 10:57
Date Received: 08/20/25 10:00

Matrix: Drinking Water
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		08/21/25 19:27	08/22/25 18:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-4

Date Collected: 08/18/25 10:57
Date Received: 08/20/25 10:00

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorooctanesulfonic acid (PFOS)	2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 18:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C6 PFDA	112		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C5 PFHxA	109		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C4 PFHpA	109		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C8 PFOA	112		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C9 PFNA	108		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C7 PFUnA	109		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C2 PFDoA	109		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C4 PFBA	113		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C5 PFPeA	112		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C3 PFBS	109		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C3 PFHxS	103		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C8 PFOS	109		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C2-4:2-FTS	106		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C2-6:2-FTS	111		50 - 200	08/21/25 19:27	08/22/25 18:40	1
13C2-8:2-FTS	107		50 - 200	08/21/25 19:27	08/22/25 18:40	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-4

Date Collected: 08/18/25 10:57
Date Received: 08/20/25 10:00

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	118		70 - 130			08/21/25 03:35	08/21/25 21:23	1
13C2 PFHxA	120		70 - 130			08/21/25 03:35	08/21/25 21:23	1
13C2 PFDA	123		70 - 130			08/21/25 03:35	08/21/25 21:23	1
13C3-GenX	118		70 - 130			08/21/25 03:35	08/21/25 21:23	1

**Client Sample ID: AIEA WELLS PUMPS 1&2 P2 (260)
(331-203-TP400)**

Lab Sample ID: 380-167107-5

Date Collected: 08/18/25 11:23
Date Received: 08/20/25 10:00

Matrix: Drinking Water
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		08/21/25 19:27	08/22/25 19:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: AIEA WELLS PUMPS 1&2 P2 (260)
(331-203-TP400)

Lab Sample ID: 380-167107-5

Date Collected: 08/18/25 11:23
Date Received: 08/20/25 10:00

Matrix: Drinking Water
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
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C6 PFDA	110		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C5 PFHxA	108		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C4 PFHpA	109		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C8 PFOA	111		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C9 PFNA	108		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C7 PFUnA	113		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C2 PFDoA	112		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C4 PFBA	112		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C5 PFPeA	114		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C3 PFBS	110		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C3 PFHxS	106		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C8 PFOS	108		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C2-4:2-FTS	102		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C2-6:2-FTS	105		50 - 200	08/21/25 19:27	08/22/25 19:01	1
13C2-8:2-FTS	105		50 - 200	08/21/25 19:27	08/22/25 19:01	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: AIEA WELLS PUMPS 1&2 P2 (260)
(331-203-TP400)

Lab Sample ID: 380-167107-5

Date Collected: 08/18/25 11:23
Date Received: 08/20/25 10:00

Matrix: Drinking Water
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		08/21/25 03:35	08/21/25 21:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorodecanoic acid (PFDA)	2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	123		70 - 130			08/21/25 03:35	08/21/25 21:33	1
13C2 PFHxA	118		70 - 130			08/21/25 03:35	08/21/25 21:33	1
13C2 PFDA	126		70 - 130			08/21/25 03:35	08/21/25 21:33	1
13C3-GenX	117		70 - 130			08/21/25 03:35	08/21/25 21:33	1

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

Lab Sample ID: 380-167107-6

Date Collected: 08/18/25 09:46
Date Received: 08/20/25 10:00

Matrix: Water
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-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-6

Date Collected: 08/18/25 09:46

Matrix: Water

Date Received: 08/20/25 10:00

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
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:12	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	109		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C6 PFDA	114		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C5 PFHxA	115		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C4 PFHpA	113		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C8 PFOA	115		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C9 PFNA	110		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C7 PFUnA	113		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C2 PFDoA	115		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C4 PFBA	111		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C5 PFPeA	114		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C3 PFBS	110		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C3 PFHxS	103		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C8 PFOS	110		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C2-4:2-FTS	105		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C2-6:2-FTS	107		50 - 200			08/21/25 19:27	08/22/25 19:12	1
13C2-8:2-FTS	106		50 - 200			08/21/25 19:27	08/22/25 19:12	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-6

Date Collected: 08/18/25 09:46

Matrix: Water

Date Received: 08/20/25 10:00

PWSID Number: HI0000331

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		08/21/25 03:35	08/21/25 21:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	119		70 - 130			08/21/25 03:35	08/21/25 21:42	1
13C2 PFHxA	117		70 - 130			08/21/25 03:35	08/21/25 21:42	1
13C2 PFDA	123		70 - 130			08/21/25 03:35	08/21/25 21:42	1
13C3-GenX	115		70 - 130			08/21/25 03:35	08/21/25 21:42	1

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

Lab Sample ID: 380-167107-7

(331-206-TP065)

Date Collected: 08/18/25 10:12

Matrix: Water

Date Received: 08/20/25 10:00

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-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-7

**Date Collected: 08/18/25 10:12
Date Received: 08/20/25 10:00**

**Matrix: Water
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
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:23	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	103		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C6 PFDA	110		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C5 PFHxA	106		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C4 PFHpA	107		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C8 PFOA	112		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C9 PFNA	106		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C7 PFUnA	112		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C2 PFDoA	113		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C4 PFBA	107		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C5 PFPeA	108		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C3 PFBS	108		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C3 PFHxS	103		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C8 PFOS	112		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C2-4:2-FTS	101		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C2-6:2-FTS	109		50 - 200			08/21/25 19:27	08/22/25 19:23	1
13C2-8:2-FTS	105		50 - 200			08/21/25 19:27	08/22/25 19:23	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-7

Date Collected: 08/18/25 10:12
Date Received: 08/20/25 10:00

Matrix: Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 21:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	119		70 - 130			08/21/25 03:35	08/21/25 21:52	1
13C2 PFHxA	124		70 - 130			08/21/25 03:35	08/21/25 21:52	1
13C2 PFDA	126		70 - 130			08/21/25 03:35	08/21/25 21:52	1
13C3-GenX	116		70 - 130			08/21/25 03:35	08/21/25 21:52	1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)

Lab Sample ID: 380-167107-8

Date Collected: 08/18/25 10:40
Date Received: 08/20/25 10:00

Matrix: Water
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-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-167107-8

Date Collected: 08/18/25 10:40

Matrix: Water

Date Received: 08/20/25 10:00

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
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:33	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C6 PFDA	111		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C5 PFHxA	106		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C4 PFHpA	107		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C8 PFOA	113		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C9 PFNA	109		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C7 PFUnA	114		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C2 PFDoA	114		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C4 PFBA	112		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C5 PFPeA	108		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C3 PFBS	107		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C3 PFHxS	104		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C8 PFOS	111		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C2-4:2-FTS	103		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C2-6:2-FTS	109		50 - 200			08/21/25 19:27	08/22/25 19:33	1
13C2-8:2-FTS	107		50 - 200			08/21/25 19:27	08/22/25 19:33	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:02	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)

Lab Sample ID: 380-167107-8

Date Collected: 08/18/25 10:40
Date Received: 08/20/25 10:00

Matrix: Water
PWSID Number: HI0000331

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		08/21/25 03:35	08/21/25 22:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	115		70 - 130			08/21/25 03:35	08/21/25 22:02	1
13C2 PFHxA	118		70 - 130			08/21/25 03:35	08/21/25 22:02	1
13C2 PFDA	118		70 - 130			08/21/25 03:35	08/21/25 22:02	1
13C3-GenX	117		70 - 130			08/21/25 03:35	08/21/25 22:02	1

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

Lab Sample ID: 380-167107-9

Date Collected: 08/18/25 10:57
Date Received: 08/20/25 10:00

Matrix: Water
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-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-9

Date Collected: 08/18/25 10:57
Date Received: 08/20/25 10:00

Matrix: Water
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
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:44	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C6 PFDA	112		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C5 PFHxA	106		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C4 PFHpA	107		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C8 PFOA	111		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C9 PFNA	109		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C7 PFUnA	111		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C2 PFDoA	113		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C4 PFBA	110		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C5 PFPeA	110		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C3 PFBS	108		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C3 PFHxS	101		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C8 PFOS	108		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C2-4:2-FTS	102		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C2-6:2-FTS	104		50 - 200			08/21/25 19:27	08/22/25 19:44	1
13C2-8:2-FTS	104		50 - 200			08/21/25 19:27	08/22/25 19:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUs)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:11	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-9

Date Collected: 08/18/25 10:57
Date Received: 08/20/25 10:00

Matrix: Water
PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130	08/21/25 03:35	08/21/25 22:11	1
13C2 PFHxA	114		70 - 130	08/21/25 03:35	08/21/25 22:11	1
13C2 PFDA	124		70 - 130	08/21/25 03:35	08/21/25 22:11	1
13C3-GenX	109		70 - 130	08/21/25 03:35	08/21/25 22:11	1

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

Lab Sample ID: 380-167107-10

Date Collected: 08/18/25 11:23
Date Received: 08/20/25 10:00

Matrix: Water
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-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 19:55	1

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Client Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-10

Date Collected: 08/18/25 11:23

Matrix: Water

Date Received: 08/20/25 10:00

PWSID Number: HI0000331

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C6 PFDA	111		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C5 PFHxA	113		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C4 PFHpA	109		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C8 PFOA	113		50 - 200	08/21/25 19 27	08/22/25 19 55	1
13C9 PFNA	111		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C7 PFUnA	116		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C2 PFDoA	113		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C4 PFBA	112		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C5 PFPeA	111		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C3 PFBS	109		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C3 PFHxS	103		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C8 PFOS	111		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C2-4:2-FTS	108		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C2-6:2-FTS	107		50 - 200	08/21/25 19:27	08/22/25 19:55	1
13C2-8:2-FTS	107		50 - 200	08/21/25 19:27	08/22/25 19:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 22:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	124		70 - 130			08/21/25 03:35	08/21/25 22:21	1
13C2 PFHxA	115		70 - 130			08/21/25 03:35	08/21/25 22:21	1
13C2 PFDA	121		70 - 130			08/21/25 03:35	08/21/25 22:21	1
13C3-GenX	115		70 - 130			08/21/25 03:35	08/21/25 22:21	1

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Action Limit Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL 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

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-167107-2

(331-206-TP065)

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL 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)	2.5		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		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 1

Lab Sample ID: 380-167107-3

(331-201-TP071)

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
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: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071) (Continued)
PWSID Number: HI0000331

Lab Sample ID: 380-167107-3

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

Lab Sample ID: 380-167107-4

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: AIEA WELLS PUMPS 1&2 P2 (260)
(331-203-TP400)
PWSID Number: HI0000331

Lab Sample ID: 380-167107-5

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: AIEA WELLS PUMPS 1&2 P2 (260)
(331-203-TP400) (Continued)
PWSID Number: HI0000331

Lab Sample ID: 380-167107-5

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

Lab Sample ID: 380-167107-6

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

Lab Sample ID: 380-167107-7

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

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Action Limit Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-7

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
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 GULCH WELLS PUMP 1
(331-201-TP071)
PWSID Number: HI0000331

Lab Sample ID: 380-167107-8

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

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

Lab Sample ID: 380-167107-9

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

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Action Limit Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-9

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	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)
PWSID Number: HI0000331

Lab Sample ID: 380-167107-10

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

Surrogate Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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)
380-167107-1	MOANALUA WELLS (331-223-T	114	113	113	117
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	119	115	119	112
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	116	117	120	116
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	118	120	123	118
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	123	118	126	117
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)
380-167094-B-1-A MS	Matrix Spike	111	113	115	105
380-167094-C-1-A MSD	Matrix Spike Duplicate	107	109	114	106
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	119	117	123	115
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	119	124	126	116
380-167107-8	FB: AIEA GULCH WELLS PUMF 1 (331-201-TP071)	115	118	118	117
380-167107-9	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	116	114	124	109
380-167107-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	124	115	121	115
LCS 380-169701/22-A	Lab Control Sample	114	109	112	103
MBL 380-169701/20-A	Method Blank	113	112	114	109
MRL 380-169701/21-A	Lab Control Sample	116	115	117	114
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: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-167107-1	MOANALUA WELLS (331-223-T	108	107	107	111	109	108	108	110
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	108	114	104	110	111	109	109	113
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	108	107	106	109	108	107	109	109
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	108	112	109	109	112	108	109	109
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	108	110	108	109	111	108	113	112

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-167107-1	MOANALUA WELLS (331-223-T	109	114	111	109	112	106	110	101
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	111	113	111	103	109	103	106	104
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	109	109	108	104	107	100	104	103
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	113	112	109	103	109	106	111	107
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	112	114	110	106	108	102	105	105

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-167103-E-1-A MS	Matrix Spike	112	114	111	109	113	109	110	112
380-167103-F-1-A MSD	Matrix Spike Duplicate	113	112	107	111	115	110	107	111
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	109	114	115	113	115	110	113	115
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	103	110	106	107	112	106	112	113

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Isotope Dilution Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-167107-8	FB: AIEA GULCH WELLS PUMF	107	111	106	107	113	109	114	114
380-167107-9	FB: AIEA GULCH WELLS PUMF	108	112	106	107	111	109	111	113
380-167107-10	2 (331-202-TP072) FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	107	111	113	109	113	111	116	113
LCS 380-169842/22-A	Lab Control Sample	112	112	106	111	112	108	110	113
MBL 380-169842/20-A	Method Blank	110	112	108	111	112	109	109	110
MRL 380-169842/21-A	Lab Control Sample	109	112	112	111	111	109	111	113

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-167103-E-1-A MS	Matrix Spike	111	115	110	106	111	102	107	104
380-167103-F-1-A MSD	Matrix Spike Duplicate	110	115	113	111	112	104	111	108
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	111	114	110	103	110	105	107	106
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	107	108	108	103	112	101	109	105
380-167107-8	FB: AIEA GULCH WELLS PUMF	112	108	107	104	111	103	109	107
380-167107-9	1 (331-201-TP071) FB: AIEA GULCH WELLS PUMF	110	110	108	101	108	102	104	104
380-167107-10	2 (331-202-TP072) FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	112	111	109	103	111	108	107	107
LCS 380-169842/22-A	Lab Control Sample	111	119	111	108	113	100	108	104
MBL 380-169842/20-A	Method Blank	114	113	112	108	115	103	109	104
MRL 380-169842/21-A	Lab Control Sample	115	112	111	108	112	107	110	106

Surrogate Legend

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

QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: MBL 380-169842/20-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169842

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	110		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C6 PFDA	112		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C5 PFHxA	108		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C4 PFHpA	111		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C8 PFOA	112		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C9 PFNA	109		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C7 PFUnA	109		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2 PFDoA	110		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C4 PFBA	114		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C5 PFPeA	113		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C3 PFBS	112		50 - 200	08/21/25 19:27	08/22/25 16:10	1

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QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: MBL 380-169842/20-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169842

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	108		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C8 PFOS	115		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2-4:2-FTS	103		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2-6:2-FTS	109		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2-8:2-FTS	104		50 - 200	08/21/25 19:27	08/22/25 16:10	1

Lab Sample ID: LCS 380-169842/22-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	109		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	113		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	109		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	111		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	117		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	120	114		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	120	115		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	115		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	120	114		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	120	114		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	115		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	120	116		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	116		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	112		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	108		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	116		ng/L		96	70 - 130
Perfluoro 3 methoxypropanoic acid (PFMPA)	120	115		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	107		ng/L		89	70 - 130
Perfluoropentanoic acid (PFPeA)	120	109		ng/L		91	70 - 130

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QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: LCS 380-169842/22-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	120	120		ng/L		100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	113		ng/L		94	70 - 130
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C3 HFPO-DA	112		50 - 200				
13C6 PFDA	112		50 - 200				
13C5 PFHxA	106		50 - 200				
13C4 PFHpA	111		50 - 200				
13C8 PFOA	112		50 - 200				
13C9 PFNA	108		50 - 200				
13C7 PFUnA	110		50 - 200				
13C2 PFDoA	113		50 - 200				
13C4 PFBA	111		50 - 200				
13C5 PFPeA	119		50 - 200				
13C3 PFBS	111		50 - 200				
13C3 PFHxS	108		50 - 200				
13C8 PFOS	113		50 - 200				
13C2-4:2-FTS	100		50 - 200				
13C2-6:2-FTS	108		50 - 200				
13C2-8:2-FTS	104		50 - 200				

Lab Sample ID: MRL 380-169842/21-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.88	J	ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.01	1.85	J	ng/L		92	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.95	J	ng/L		97	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.90	J	ng/L		95	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.03	J	ng/L		101	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: MRL 380-169842/21-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.00	J	ng/L		99	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.04	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.07	J	ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.01	J	ng/L		100	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.82	J	ng/L		91	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.87	J	ng/L		93	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	111		50 - 200
13C2 PFDoA	113		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	106		50 - 200

Lab Sample ID: 380-167103-E-1-A MS

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	113		ng/L		93	70 - 130

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QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167103-E-1-A MS

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	115		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	110		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	115		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	119		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	109		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	115		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	118		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	114		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	115		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	118		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	114		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	118		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	116		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	121		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	111		ng/L		92	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	112		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		121	117		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	111		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	113		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	113		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	119		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	113		ng/L		94	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	112		50 - 200
13C6 PFDA	114		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	112		50 - 200

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QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167103-E-1-A MS

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169842

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFBA	111		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-167103-F-1-A MSD

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169842

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		121	110		ng/L		91	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		121	114		ng/L		95	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	111		ng/L		92	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	113		ng/L		93	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	116		ng/L		95	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		121	113		ng/L		94	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	115		ng/L		95	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	114		ng/L		93	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	112		ng/L		92	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	121		ng/L		99	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		121	115		ng/L		95	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	117		ng/L		96	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		121	112		ng/L		92	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	119		ng/L		99	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		121	114		ng/L		94	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	117		ng/L		97	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	115		ng/L		95	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	113		ng/L		94	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	115		ng/L		96	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	110		ng/L		91	70 - 130	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	113		ng/L		94	70 - 130	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167103-F-1-A MSD

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	115		ng/L		96	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	117		ng/L		95	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	116		ng/L		96	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	109		ng/L		90	70 - 130	3	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C3 HFPO-DA	113		50 - 200								
13C6 PFDA	112		50 - 200								
13C5 PFHxA	107		50 - 200								
13C4 PFHpA	111		50 - 200								
13C8 PFOA	115		50 - 200								
13C9 PFNA	110		50 - 200								
13C7 PFUnA	107		50 - 200								
13C2 PFDoA	111		50 - 200								
13C4 PFBA	110		50 - 200								
13C5 PFPeA	115		50 - 200								
13C3 PFBS	113		50 - 200								
13C3 PFHxS	111		50 - 200								
13C8 PFOS	112		50 - 200								
13C2-4:2-FTS	104		50 - 200								
13C2-6:2-FTS	111		50 - 200								
13C2-8:2-FTS	108		50 - 200								

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

Lab Sample ID: MBL 380-169701/20-A

Matrix: Water

Analysis Batch: 169794

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169701

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1

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QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: MBL 380-169701/20-A

Matrix: Water

Analysis Batch: 169794

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169701

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/21/25 03:35	08/21/25 18:41	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NeFOSAA	113		70 - 130			08/21/25 03:35	08/21/25 18:41	1
13C2 PFHxA	112		70 - 130			08/21/25 03:35	08/21/25 18:41	1
13C2 PFDA	114		70 - 130			08/21/25 03:35	08/21/25 18:41	1
13C3-GenX	109		70 - 130			08/21/25 03:35	08/21/25 18:41	1

Lab Sample ID: LCS 380-169701/22-A

Matrix: Water

Analysis Batch: 169794

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169701

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	49.3		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.1	52.0		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	51.3		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	53.3		ng/L		106	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NeFOSAA)	50.1	52.8		ng/L		105	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	50.8		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	51.9		ng/L		104	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	52.5		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	52.1		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	50.0		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	50.2		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	49.8		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	50.1	53.8		ng/L		107	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	43.6		ng/L		87	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	50.1	53.6		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	49.8		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	47.7		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	51.5		ng/L		103	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Surrogate	LCS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	114		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	112		70 - 130
13C3-GenX	103		70 - 130

Lab Sample ID: MRL 380-169701/21-A				Client Sample ID: Lab Control Sample			
Matrix: Water				Prep Type: Total/NA			
Analysis Batch: 169794				Prep Batch: 169701			

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	2.00	2.36	J	ng/L		118	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	2.00	2.33	J	ng/L		116	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.35	J	ng/L		117	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.43	J	ng/L		121	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.41	J	ng/L		120	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.48	J	ng/L		124	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.58	J	ng/L		129	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.33	J	ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.20	J	ng/L		110	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.49	J	ng/L		124	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.49	J	ng/L		124	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.30	J	ng/L		115	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.30	J	ng/L		115	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.38	J	ng/L		119	50 - 150

Surrogate	MRL		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	116		70 - 130
13C2 PFHxA	115		70 - 130
13C2 PFDA	117		70 - 130
13C3-GenX	114		70 - 130

QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167094-B-1-A MS

Matrix: Water

Analysis Batch: 169794

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169701

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.3	50.0		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.3	54.0		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	51.7		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	51.1		ng/L		102	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	47.5		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.3	50.7		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	52.8		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.3	53.3		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.3	52.8		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.3	53.4		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.3	50.9		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	51.8		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.3	53.6		ng/L		107	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	49.2		ng/L		98	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.3	55.3		ng/L		110	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	51.9		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	50.3		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	50.4		ng/L		100	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	111		70 - 130
13C2 PFHxA	113		70 - 130
13C2 PFDA	115		70 - 130
13C3-GenX	105		70 - 130

Lab Sample ID: 380-167094-C-1-A MSD

Matrix: Water

Analysis Batch: 169794

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169701

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	49.9		ng/L		99	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	52.6		ng/L		101	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	52.7		ng/L		105	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167094-C-1-A MSD

Matrix: Water

Analysis Batch: 169794

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169701

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	51.5		ng/L		102	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	48.3		ng/L		96	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	51.0		ng/L		100	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	53.1		ng/L		106	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	53.2		ng/L		106	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	53.7		ng/L		107	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	53.9		ng/L		106	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	52.0		ng/L		103	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	51.3		ng/L		102	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	52.5		ng/L		105	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	48.9		ng/L		97	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	54.5		ng/L		109	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	51.4		ng/L		102	70 - 130	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	50.0		ng/L		100	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	51.0		ng/L		102	70 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	107		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	114		70 - 130
13C3-GenX	106		70 - 130

QC Association Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

LCMS

Prep Batch: 169701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167107-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	537.1 DW	
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	537.1 DW	
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	537.1 DW	
380-167107-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC01)	Total/NA	Water	537.1 DW	
380-167107-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC01)	Total/NA	Water	537.1 DW	
380-167107-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TPC01)	Total/NA	Water	537.1 DW	
MBL 380-169701/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-169701/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-169701/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-167094-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-167094-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 169794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167107-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	169701
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	537.1	169701
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1	169701
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	169701
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	537.1	169701
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	169701
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	537.1	169701
380-167107-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC01)	Total/NA	Water	537.1	169701
380-167107-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC01)	Total/NA	Water	537.1	169701
380-167107-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TPC01)	Total/NA	Water	537.1	169701
MBL 380-169701/20-A	Method Blank	Total/NA	Water	537.1	169701
LCS 380-169701/22-A	Lab Control Sample	Total/NA	Water	537.1	169701
MRL 380-169701/21-A	Lab Control Sample	Total/NA	Water	537.1	169701
380-167094-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	169701
380-167094-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	169701

Prep Batch: 169842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167107-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	533	
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	533	
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	533	
380-167107-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC01)	Total/NA	Water	533	
380-167107-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC01)	Total/NA	Water	533	
380-167107-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TPC01)	Total/NA	Water	533	
MBL 380-169842/20-A	Method Blank	Total/NA	Water	533	
LCS 380-169842/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-169842/21-A	Lab Control Sample	Total/NA	Water	533	
380-167103-E-1-A MS	Matrix Spike	Total/NA	Water	533	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

LCMS (Continued)

Prep Batch: 169842 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167103-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 170026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167107-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	169842
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	533	169842
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	169842
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	169842
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	533	169842
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	169842
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	533	169842
380-167107-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC01)	Total/NA	Water	533	169842
380-167107-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC01)	Total/NA	Water	533	169842
380-167107-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TPC01)	Total/NA	Water	533	169842
MBL 380-169842/20-A	Method Blank	Total/NA	Water	533	169842
LCS 380-169842/22-A	Lab Control Sample	Total/NA	Water	533	169842
MRL 380-169842/21-A	Lab Control Sample	Total/NA	Water	533	169842
380-167103-E-1-A MS	Matrix Spike	Total/NA	Water	533	169842
380-167103-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	169842

Lab Chronicle

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-1

Date Collected: 08/18/25 09:46

Matrix: Drinking Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 18:08
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 20:45

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

Lab Sample ID: 380-167107-2

Date Collected: 08/18/25 10:12

Matrix: Drinking Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 18:18
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 20:55

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Lab Sample ID: 380-167107-3

Date Collected: 08/18/25 10:40

Matrix: Drinking Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 18:29
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 21:14

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

Lab Sample ID: 380-167107-4

Date Collected: 08/18/25 10:57

Matrix: Drinking Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 18:40
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 21:23

Lab Chronicle

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Client Sample ID: AIEA WELLS PUMPS 1&2 P2 (260)
(331-203-TP400)

Lab Sample ID: 380-167107-5

Date Collected: 08/18/25 11:23
Date Received: 08/20/25 10:00

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 19:01
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 21:33

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

Lab Sample ID: 380-167107-6

Date Collected: 08/18/25 09:46
Date Received: 08/20/25 10:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 19:12
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 21:42

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

Lab Sample ID: 380-167107-7

Date Collected: 08/18/25 10:12
Date Received: 08/20/25 10:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 19:23
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 21:52

Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)

Lab Sample ID: 380-167107-8

Date Collected: 08/18/25 10:40
Date Received: 08/20/25 10:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 19:33
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 22:02

Lab Chronicle

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

Job ID: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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

Lab Sample ID: 380-167107-9

Date Collected: 08/18/25 10:57

Matrix: Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 19:44
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 22:11

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

Lab Sample ID: 380-167107-10

Date Collected: 08/18/25 11:23

Matrix: Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 19:55
Total/NA	Prep	537.1 DW			169701	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169794	SZ9R	EA POM	08/21/25 22:21

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: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-26

- 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: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells
P1/P2, Aiea Wells Pump 1&2

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: 380-167107-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells P1/P2, Aiea Wells Pump 1&2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-167107-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	08/18/25 09:46	08/20/25 10:00	HI0000331
380-167107-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	08/18/25 10:12	08/20/25 10:00	HI0000331
380-167107-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Drinking Water	08/18/25 10:40	08/20/25 10:00	HI0000331
380-167107-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	08/18/25 10:57	08/20/25 10:00	HI0000331
380-167107-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	Drinking Water	08/18/25 11:23	08/20/25 10:00	HI0000331
380-167107-6	FB: MOANALUA WELLS (331-223-TP202)	Water	08/18/25 09:46	08/20/25 10:00	HI0000331
380-167107-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	08/18/25 10:12	08/20/25 10:00	HI0000331
380-167107-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Water	08/18/25 10:40	08/20/25 10:00	HI0000331
380-167107-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	08/18/25 10:57	08/20/25 10:00	HI0000331
380-167107-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	08/18/25 11:23	08/20/25 10:00	HI0000331

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

Chain of Custody Record



Environment Testing
America

Client Information		Lab P#: Lopez, Maria		Carrier Tracking No(s):		COC No: 380-27941-2757.2	
Client Contact: kirk iwamoto		Phone: +1 808 748 5840		E-Mail: Maria.Lopez@eurofins.com		Page: 2 of 2	
Company: City & County of Honolulu		PWSID:		Date of Origin:		Job #:	
Address: 630 South Beretania Street, Chemistry Lab		Due Date Requested:		Analysis Requested		Preservation Codes:	
City: Honolulu		TAT Requested (days):		Perform MS/MSD (Yes or No)		A HCL M Hexane	
State, Zip: HI, 96843		Compliance Project: Δ No		Field Filtered Sample (Yes or No)		B NaOH N None	
Phone: 808-748-5840 (tel)		PO #: C20625101 exp 05312023		SUBCONTRACT 625 PAH Phys LL (EAL) + TICs		C Zn Acetate P Na2O4S	
Email: kiyamoto@hbws.org		WG #: 38001111		8015B_DRO_LL_CS HNL Ranges: C10-C24/C24-C38/C8		D Nitric Acid Q Na2SO3	
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111		8015B_GRO_LL (MOD) GRO		E NaHSO4 R Na2SO3	
Site: SSOW#:		Sample Date		Sample Time		F MeOH S H2SO4	
Sample Identification		Sample Type (C=Comp, G=Grab)		Matrix (W=Water, S=Solid, O=Other)		G Antichlor H Ascorbic Acid	
Moanalua Wells P1		18-Aug-2025		0946		I Ice U Acetone	
Halawa Wells Units 1&2 P1		18-Aug-2025		1012		J DI Water V MCHV	
Area Gulch Wells Pump 1		18-Aug-2025		1040		K EDTA W pH 4-5	
Area Gulch Wells Pump 2		18-Aug-2025		1057		L EDA Y Trizma	
Area Wells Pumps 1&2 (260) P2		18-Aug-2025		1123		Z other (specify)	
FB Moanalua Wells		18-Aug-2025		0946		Other	
FB Halawa Wells Units 1&2		18-Aug-2025		1012		Special Instructions/Note:	
FB Area Gulch Wells Pump 1		18-Aug-2025		1040		chlorinated	
FB Area Gulch Wells Pump 2		18-Aug-2025		1057		chlorinated	
FB Area Wells Pumps 1&2 (260)		18-Aug-2025		1123			
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant		Empty Kit Relinquished by: [Signature]		Date: 8/27/2025		Time: 1400	
Deliverable Requested: I, II, III, IV Other (specify)		Relinquished by: [Signature]		Date: 8/27/2025		Time: 1400	
Custody Seals Intact: A Yes A No		Relinquished by: [Signature]		Date: 8/27/2025		Time: 1400	
Custody Seal No.		Relinquished by: [Signature]		Date: 8/27/2025		Time: 1400	
Cooler Temperature(s) °C and Other Remarks: (95°F) 10°-0.0°=10°		Relinquished by: [Signature]		Date: 8/27/2025		Time: 1400	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-167107-1

SDG Number: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells P1/P2, Aiea Wells Pump 1&2

Login Number: 167107

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Segura, Ryan

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	