

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells
RUSH Weekly Red Hill

JOB NUMBER

380-157196-1

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: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

Qualifiers

LCMS

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

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: 380-157196-1

Job ID: 380-157196-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-157196-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

Receipt

The samples were received on 6/25/2025 9:19 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 4.0°C.

PFAS

Method 537.1_DW_PREC: The following QC issues in preparation batch 380-159952 and analytical batch 380-160070 were observed: Matrix spike duplicate possibly double spiked, causing MS/MSD RPD failure. LCS passed all QC requirements. MS/MSD failure does not invalidate a batch. Affected samples in this batch are: MOANALUA WELLS (331-223-TP202) (380-157196-1), HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065) (380-157196-2), AIEA GULCH WELLS PUMP 1 (331-201-TP071) (380-157196-3), AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-157196-4), AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400) (380-157196-5), FB: MOANALUA WELLS (331-223-TP202) (380-157196-6), FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-157196-7), FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071) (380-157196-8), FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-157196-9) and FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-157196-10).

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

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Detection Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-157196-2

(331-206-TP065)

PWSID Number: HI0000331

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		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: 380-157196-3

(331-201-TP071)

PWSID Number: HI0000331

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-157196-4

(331-202-TP072)

PWSID Number: HI0000331

No Detections.

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

Lab Sample ID: 380-157196-5

(331-203-TP400)

PWSID Number: HI0000331

No Detections.

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

Lab Sample ID: 380-157196-6

PWSID Number: HI0000331

No Detections.

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

Lab Sample ID: 380-157196-7

(331-206-TP065)

PWSID Number: HI0000331

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 1

Lab Sample ID: 380-157196-8

(331-201-TP071)

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: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-9

☐ No Detections.

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

Lab Sample ID: 380-157196-10

☐ No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1

Date Collected: 06/23/25 09:53

Matrix: Drinking Water

Date Received: 06/25/25 09:19

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		06/26/25 16:32	06/27/25 12:21	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 12:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C6 PFDA	68		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C5 PFHxA	82		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C4 PFHpA	77		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C8 PFOA	81		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C9 PFNA	70		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C7 PFUnA	71		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C2 PFDoA	76		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C4 PFBA	87		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C5 PFPeA	86		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C3 PFBS	106		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C3 PFHxS	108		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C8 PFOS	101		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C2-4:2-FTS	123		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C2-6:2-FTS	112		50 - 200	06/26/25 16:32	06/27/25 12:21	1
13C2-8:2-FTS	105		50 - 200	06/26/25 16:32	06/27/25 12:21	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1

Date Collected: 06/23/25 09:53

Matrix: Drinking Water

Date Received: 06/25/25 09:19

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		06/26/25 11:53	06/27/25 08:48	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97		70 - 130	06/26/25 11:53	06/27/25 08:48	1
13C2 PFHxA	101		70 - 130	06/26/25 11:53	06/27/25 08:48	1
13C2 PFDA	99		70 - 130	06/26/25 11:53	06/27/25 08:48	1
13C3-GenX	95		70 - 130	06/26/25 11:53	06/27/25 08:48	1

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

Lab Sample ID: 380-157196-2

Date Collected: 06/23/25 10:24

Matrix: Drinking Water

Date Received: 06/25/25 09:19

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		06/26/25 16:32	06/27/25 15:00	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-2

Date Collected: 06/23/25 10:24
Date Received: 06/25/25 09:19

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
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoropentanoic acid (PFPeA)	2.5		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:00	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C6 PFDA	80		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C5 PFHxA	80		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C4 PFHpA	79		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C8 PFOA	85		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C9 PFNA	85		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C7 PFUnA	81		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C2 PFDoA	80		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C4 PFBA	85		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C5 PFPeA	82		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C3 PFBS	101		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C3 PFHxS	103		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C8 PFOS	97		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C2-4:2-FTS	116		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C2-6:2-FTS	113		50 - 200			06/26/25 16:32	06/27/25 15:00	1
13C2-8:2-FTS	108		50 - 200			06/26/25 16:32	06/27/25 15:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-2

Date Collected: 06/23/25 10:24
Date Received: 06/25/25 09:19

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		06/26/25 11:53	06/27/25 08:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 08:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			06/26/25 11:53	06/27/25 08:58	1
13C2 PFHxA	99		70 - 130			06/26/25 11:53	06/27/25 08:58	1
13C2 PFDA	98		70 - 130			06/26/25 11:53	06/27/25 08:58	1
13C3-GenX	99		70 - 130			06/26/25 11:53	06/27/25 08:58	1

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

Lab Sample ID: 380-157196-3

Date Collected: 06/23/25 10:48
Date Received: 06/25/25 09:19

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		06/26/25 16:32	06/27/25 15:09	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-3

Date Collected: 06/23/25 10:48

Matrix: Drinking Water

Date Received: 06/25/25 09:19

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-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:09	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	75		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C6 PFDA	85		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C5 PFHxA	85		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C4 PFHpA	83		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C8 PFOA	86		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C9 PFNA	86		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C7 PFUnA	89		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C2 PFDoA	91		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C4 PFBA	87		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C5 PFPeA	89		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C3 PFBS	103		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C3 PFHxS	106		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C8 PFOS	101		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C2-4:2-FTS	129		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C2-6:2-FTS	115		50 - 200			06/26/25 16:32	06/27/25 15:09	1
13C2-8:2-FTS	112		50 - 200			06/26/25 16:32	06/27/25 15:09	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		06/26/25 11:53	06/27/25 09:17	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-3

Date Collected: 06/23/25 10:48
Date Received: 06/25/25 09:19

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
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		70 - 130			06/26/25 11:53	06/27/25 09:17	1
13C2 PFHxA	96		70 - 130			06/26/25 11:53	06/27/25 09:17	1
13C2 PFDA	98		70 - 130			06/26/25 11:53	06/27/25 09:17	1
13C3-GenX	97		70 - 130			06/26/25 11:53	06/27/25 09:17	1

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

Lab Sample ID: 380-157196-4

Date Collected: 06/23/25 11:06
Date Received: 06/25/25 09:19

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		06/26/25 16:32	06/27/25 15:19	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-4

Date Collected: 06/23/25 11:06
Date Received: 06/25/25 09:19

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
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:19	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C6 PFDA	91		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C5 PFHxA	86		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C4 PFHpA	88		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C8 PFOA	91		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C9 PFNA	88		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C7 PFUnA	91		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C2 PFDoA	95		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C4 PFBA	89		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C5 PFPeA	89		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C3 PFBS	104		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C3 PFHxS	108		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C8 PFOS	102		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C2-4:2-FTS	125		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C2-6:2-FTS	122		50 - 200			06/26/25 16:32	06/27/25 15:19	1
13C2-8:2-FTS	111		50 - 200			06/26/25 16:32	06/27/25 15:19	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-4

**Date Collected: 06/23/25 11:06
Date Received: 06/25/25 09:19**

**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
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			06/26/25 11:53	06/27/25 09:27	1
13C2 PFHxA	100		70 - 130			06/26/25 11:53	06/27/25 09:27	1
13C2 PFDA	99		70 - 130			06/26/25 11:53	06/27/25 09:27	1
13C3-GenX	102		70 - 130			06/26/25 11:53	06/27/25 09:27	1

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

Lab Sample ID: 380-157196-5

**Date Collected: 06/23/25 11:27
Date Received: 06/25/25 09:19**

**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		06/26/25 16:32	06/27/25 15:29	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:29	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-5

Date Collected: 06/23/25 11:27
Date Received: 06/25/25 09:19

Matrix: Drinking Water
PWSID Number: HI0000331

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C6 PFDA	84		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C5 PFHxA	90		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C4 PFHpA	86		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C8 PFOA	91		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C9 PFNA	85		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C7 PFUnA	88		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C2 PFDoA	89		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C4 PFBA	94		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C5 PFPeA	97		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C3 PFBS	103		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C3 PFHxS	106		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C8 PFOS	101		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C2-4:2-FTS	135		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C2-6:2-FTS	122		50 - 200	06/26/25 16:32	06/27/25 15:29	1
13C2-8:2-FTS	111		50 - 200	06/26/25 16:32	06/27/25 15:29	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		06/26/25 11:53	06/27/25 09:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130			06/26/25 11:53	06/27/25 09:36	1
13C2 PFHxA	97		70 - 130			06/26/25 11:53	06/27/25 09:36	1
13C2 PFDA	100		70 - 130			06/26/25 11:53	06/27/25 09:36	1
13C3-GenX	98		70 - 130			06/26/25 11:53	06/27/25 09:36	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-6

Date Collected: 06/23/25 09:53

Matrix: Water

Date Received: 06/25/25 09:19

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		06/26/25 16:32	06/27/25 15:38	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C6 PFDA	104		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C5 PFHxA	107		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C4 PFHpA	104		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C8 PFOA	108		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C9 PFNA	103		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C7 PFUnA	101		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C2 PFDoA	100		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C4 PFBA	106		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C5 PFPeA	109		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C3 PFBS	106		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C3 PFHxS	107		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C8 PFOS	103		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C2-4:2-FTS	126		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C2-6:2-FTS	116		50 - 200	06/26/25 16:32	06/27/25 15:38	1
13C2-8:2-FTS	111		50 - 200	06/26/25 16:32	06/27/25 15:38	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-6

Date Collected: 06/23/25 09:53

Matrix: Water

Date Received: 06/25/25 09:19

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		06/26/25 11:53	06/27/25 09:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		70 - 130			06/26/25 11:53	06/27/25 09:46	1
13C2 PFHxA	95		70 - 130			06/26/25 11:53	06/27/25 09:46	1
13C2 PFDA	96		70 - 130			06/26/25 11:53	06/27/25 09:46	1
13C3-GenX	89		70 - 130			06/26/25 11:53	06/27/25 09:46	1

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

Lab Sample ID: 380-157196-7

Date Collected: 06/23/25 10:24

Matrix: Water

Date Received: 06/25/25 09:19

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		06/26/25 16:32	06/27/25 15:48	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-7

Date Collected: 06/23/25 10:24
Date Received: 06/25/25 09:19

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
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/26/25 16:32	06/27/25 15:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C6 PFDA	101		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C5 PFHxA	106		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C4 PFHpA	104		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C8 PFOA	108		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C9 PFNA	102		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C7 PFUnA	102		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C2 PFDoA	101		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C4 PFBA	104		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C5 PFPeA	110		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C3 PFBS	103		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C3 PFHxS	104		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C8 PFOS	101		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C2-4:2-FTS	124		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C2-6:2-FTS	116		50 - 200	06/26/25 16:32	06/27/25 15:48	1
13C2-8:2-FTS	110		50 - 200	06/26/25 16:32	06/27/25 15:48	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		06/26/25 11:53	06/27/25 09:55	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-7

Date Collected: 06/23/25 10:24
Date Received: 06/25/25 09:19

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
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 09:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130			06/26/25 11:53	06/27/25 09:55	1
13C2 PFHxA	98		70 - 130			06/26/25 11:53	06/27/25 09:55	1
13C2 PFDA	102		70 - 130			06/26/25 11:53	06/27/25 09:55	1
13C3-GenX	95		70 - 130			06/26/25 11:53	06/27/25 09:55	1

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

Lab Sample ID: 380-157196-8

Date Collected: 06/23/25 10:48
Date Received: 06/25/25 09:19

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-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-8

**Date Collected: 06/23/25 10:48
Date Received: 06/25/25 09:19**

**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
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:41	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C6 PFDA	104		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C5 PFHxA	103		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C4 PFHpA	100		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C8 PFOA	109		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C9 PFNA	104		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C7 PFUnA	104		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C2 PFDoA	103		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C4 PFBA	108		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C5 PFPeA	109		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C3 PFBS	106		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C3 PFHxS	109		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C8 PFOS	104		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C2-4:2-FTS	128		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C2-6:2-FTS	119		50 - 200			06/27/25 07:54	06/27/25 21:41	1
13C2-8:2-FTS	112		50 - 200			06/27/25 07:54	06/27/25 21:41	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		06/26/25 11:53	06/27/25 10:05	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-8

Date Collected: 06/23/25 10:48
Date Received: 06/25/25 09:19

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
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130			06/26/25 11:53	06/27/25 10:05	1
13C2 PFHxA	96		70 - 130			06/26/25 11:53	06/27/25 10:05	1
13C2 PFDA	96		70 - 130			06/26/25 11:53	06/27/25 10:05	1
13C3-GenX	96		70 - 130			06/26/25 11:53	06/27/25 10:05	1

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

Lab Sample ID: 380-157196-9

Date Collected: 06/23/25 11:06
Date Received: 06/25/25 09:19

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-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-9

Date Collected: 06/23/25 11:06
Date Received: 06/25/25 09:19

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-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 21:50	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	75		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C6 PFDA	88		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C5 PFHxA	84		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C4 PFHpA	82		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C8 PFOA	88		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C9 PFNA	87		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C7 PFUnA	91		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C2 PFDoA	89		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C4 PFBA	85		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C5 PFPeA	84		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C3 PFBS	105		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C3 PFHxS	107		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C8 PFOS	102		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C2-4:2-FTS	128		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C2-6:2-FTS	118		50 - 200			06/27/25 07:54	06/27/25 21:50	1
13C2-8:2-FTS	112		50 - 200			06/27/25 07:54	06/27/25 21:50	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		06/26/25 11:53	06/27/25 10:14	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:14	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-9

Date Collected: 06/23/25 11:06
Date Received: 06/25/25 09:19

Matrix: Water
PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97		70 - 130	06/26/25 11:53	06/27/25 10:14	1
13C2 PFHxA	92		70 - 130	06/26/25 11:53	06/27/25 10:14	1
13C2 PFDA	100		70 - 130	06/26/25 11:53	06/27/25 10:14	1
13C3-GenX	91		70 - 130	06/26/25 11:53	06/27/25 10:14	1

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

Lab Sample ID: 380-157196-10

Date Collected: 06/23/25 11:27
Date Received: 06/25/25 09:19

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-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/27/25 07:54	06/27/25 22:00	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200			06/27/25 07:54	06/27/25 22:00	1
13C6 PFDA	103		50 - 200			06/27/25 07:54	06/27/25 22:00	1
13C5 PFHxA	106		50 - 200			06/27/25 07:54	06/27/25 22:00	1

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Client Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-10

Date Collected: 06/23/25 11:27
Date Received: 06/25/25 09:19

Matrix: 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
13C4 PFHpA	104		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C8 PFOA	110		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C9 PFNA	107		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C7 PFUnA	104		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C2 PFDoA	101		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C4 PFBA	111		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C5 PFPeA	113		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C3 PFBS	105		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C3 PFHxS	109		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C8 PFOS	105		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C2-4:2-FTS	135		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C2-6:2-FTS	128		50 - 200	06/27/25 07:54	06/27/25 22:00	1
13C2-8:2-FTS	120		50 - 200	06/27/25 07:54	06/27/25 22:00	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 10:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		70 - 130	06/26/25 11:53	06/27/25 10:24	1
13C2 PFHxA	98		70 - 130	06/26/25 11:53	06/27/25 10:24	1
13C2 PFDA	95		70 - 130	06/26/25 11:53	06/27/25 10:24	1
13C3-GenX	91		70 - 130	06/26/25 11:53	06/27/25 10:24	1

Action Limit Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1

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: 380-157196-2

(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)	2.4		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		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)	2.5		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: 380-157196-3

(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
Perfluorohexanesulfonic acid (PFHxS)	<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: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-3

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			
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: 380-157196-4

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: 380-157196-5

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-5

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			
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: 380-157196-6

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: 380-157196-7

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-7

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
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: 380-157196-8

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: 380-157196-9

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
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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-9

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
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: 380-157196-10

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

Surrogate Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-157196-1	MOANALUA WELLS (331-223-T	97	101	99	95
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	103	99	98	99
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	98	96	98	97
380 157196 4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	103	100	99	102
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	100	97	100	98

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

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-157187-B-1-A MS	Matrix Spike	98	99	101	99
380-157187-C-1-A MSD	Matrix Spike Duplicate	94	97	97	96
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	94	95	96	89
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	99	98	102	95
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	95	96	96	96
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	97	92	100	91
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	98	98	95	91
LCS 380-159952/22-A	Lab Control Sample	97	96	100	90
MB 380-159952/20-A	Method Blank	85	86	90	82
MRL 380-159952/21-A	Lab Control Sample	95	101	99	98

Surrogate Legend

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

Isotope Dilution Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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)
380-157196-1	MOANALUA WELLS (331-223-T	72	68	82	77	81	70	71	76
380-157196-1 MS	MOANALUA WELLS (331-223-TP202)	85	91	89	88	93	89	90	90
380-157196-1 MSD	MOANALUA WELLS (331-223-TP202)	63	53	69	62	63	56	55	63
380 157196 2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	72	80	80	79	85	85	81	80
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	75	85	85	83	86	86	89	91
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	79	91	86	88	91	88	91	95
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	80	84	90	86	91	85	88	89
		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)
380-157196-1	MOANALUA WELLS (331-223-T	87	86	106	108	101	123	112	105
380-157196-1 MS	MOANALUA WELLS (331-223-TP202)	90	90	103	105	102	117	111	105
380-157196-1 MSD	MOANALUA WELLS (331-223-TP202)	73	70	104	104	100	119	117	110
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	85	82	101	103	97	116	113	108
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	87	89	103	106	101	129	115	112
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	89	89	104	108	102	125	122	111
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	94	97	103	106	101	135	122	111

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

Isotope Dilution Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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)
380-157088-B-1-A MS	Matrix Spike	100	104	102	102	106	104	104	104
380-157088-C-1-A MSD	Matrix Spike Duplicate	92	93	93	96	98	95	97	98
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	97	104	107	104	108	103	101	100
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	96	101	106	104	108	102	102	101
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	97	104	103	100	109	104	104	103
380 157196 9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	75	88	84	82	88	87	91	89
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	97	103	106	104	110	107	104	101
LCS 380-160011/22-A	Lab Control Sample	101	98	106	101	106	98	96	97
LCS 380-160081/22-A	Lab Control Sample	99	108	105	107	112	108	111	107
MBL 380-160011/20-A	Method Blank	104	100	109	103	108	100	97	97
MBL 380-160081/20-A	Method Blank	94	99	104	99	108	104	101	98
MRL 380-160011/21-A	Lab Control Sample	100	96	103	103	106	98	96	95
MRL 380-160081/21-A	Lab Control Sample	99	106	111	107	114	106	106	106
		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)
380-157088-B-1-A MS	Matrix Spike	105	119	104	109	104	132	129	128
380-157088-C-1-A MSD	Matrix Spike Duplicate	104	111	102	107	103	128	127	122
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	106	109	106	107	103	126	116	111
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	104	110	103	104	101	124	116	110
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	108	109	106	109	104	128	119	112
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	85	84	105	107	102	128	118	112
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	111	113	105	109	105	135	128	120
LCS 380-160011/22-A	Lab Control Sample	103	105	109	108	102	119	116	108
LCS 380-160081/22-A	Lab Control Sample	112	112	106	112	109	135	131	128
MBL 380-160011/20-A	Method Blank	109	110	108	110	105	127	113	107
MBL 380-160081/20-A	Method Blank	104	111	102	106	99	131	121	118
MRL 380-160011/21-A	Lab Control Sample	107	107	109	112	101	120	111	102
MRL 380-160081/21-A	Lab Control Sample	107	115	110	110	106	137	129	120

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

Isotope Dilution Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

C8PFOS = 13C8 PFOS
42FTS = 13C2-4:2-FTS
62FTS = 13C2-6:2-FTS
82FTS = 13C2-8:2-FTS

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QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: MBL 380-160011/20-A
Matrix: Water
Analysis Batch: 160115

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 160011

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		06/26/25 16:32	06/27/25 11:51	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C6 PFDA	100		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C5 PFHxA	109		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C4 PFHpA	103		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C8 PFOA	108		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C9 PFNA	100		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C7 PFUnA	97		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C2 PFDoA	97		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C4 PFBA	109		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C5 PFPeA	110		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C3 PFBS	108		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C3 PFHxS	110		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C8 PFOS	105		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C2-4:2-FTS	127		50 - 200	06/26/25 16:32	06/27/25 11:51	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: MBL 380-160011/20-A

Matrix: Water

Analysis Batch: 160115

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 160011

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-6:2-FTS	113		50 - 200	06/26/25 16:32	06/27/25 11:51	1
13C2-8:2-FTS	107		50 - 200	06/26/25 16:32	06/27/25 11:51	1

Lab Sample ID: LCS 380-160011/22-A

Matrix: Water

Analysis Batch: 160115

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160011

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	121	125		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	121	121		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	121	122		ng/L		101	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	121	119		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	121	120		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	121	121		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	121	120		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	121	122		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	121	119		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	121	122		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	121	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	121	121		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	121	115		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	121	120		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	121	124		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	121	120		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	121	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	121	116		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	121	119		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	121	118		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	121	121		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	121	119		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	121	117		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	121	124		ng/L		103	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	121	121		ng/L		100	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	101		50 - 200

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: LCS 380-160011/22-A

Matrix: Water

Analysis Batch: 160115

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160011

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C6 PFDA	98		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	98		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	119		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	108		50 - 200

Lab Sample ID: MRL 380-160011/21-A

Matrix: Water

Analysis Batch: 160115

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160011

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.24	J	ng/L		111	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.16	J	ng/L		108	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.18	J	ng/L		109	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.17	J	ng/L		108	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.22	J	ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.16	J	ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.29	J	ng/L		114	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.47	J	ng/L		123	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.26	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.29	J	ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.34	J	ng/L		116	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: MRL 380-160011/21-A

Matrix: Water

Analysis Batch: 160115

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160011

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.15	J	ng/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.18	J	ng/L		109	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.10	J	ng/L		104	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.19	J	ng/L		109	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.21	J	ng/L		110	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.10	J	ng/L		105	50 - 150
Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits				
13C3 HFPO-DA	100		50 - 200				
13C6 PFDA	96		50 - 200				
13C5 PFHxA	103		50 - 200				
13C4 PFHpA	103		50 - 200				
13C8 PFOA	106		50 - 200				
13C9 PFNA	98		50 - 200				
13C7 PFUnA	96		50 - 200				
13C2 PFDoA	95		50 - 200				
13C4 PFBA	107		50 - 200				
13C5 PFPeA	107		50 - 200				
13C3 PFBS	109		50 - 200				
13C3 PFHxS	112		50 - 200				
13C8 PFOS	101		50 - 200				
13C2-4:2-FTS	120		50 - 200				
13C2-6:2-FTS	111		50 - 200				
13C2-8:2-FTS	102		50 - 200				

Lab Sample ID: 380-157196-1 MS

Matrix: Drinking Water

Analysis Batch: 160115

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

Prep Type: Total/NA

Prep Batch: 160011

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	120		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	117		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	116		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	121		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	120		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	123		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	124		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	121		ng/L		100	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1 MS

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

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 160115

Prep Batch: 160011

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	120		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	122		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	120		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	119		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	115		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	123		ng/L		102	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	119		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	123		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	119		ng/L		99	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		121	112		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	117		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	115		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	114		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	120		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	123		ng/L		102	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	125		ng/L		103	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	85		50 - 200
13C6 PFDA	91		50 - 200
13C5 PFHxA	89		50 - 200
13C4 PFHpA	88		50 - 200
13C8 PFOA	93		50 - 200
13C9 PFNA	89		50 - 200
13C7 PFUnA	90		50 - 200
13C2 PFDoA	90		50 - 200
13C4 PFBA	90		50 - 200
13C5 PFPeA	90		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	105		50 - 200

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1 MSD

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

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 160115

Prep Batch: 160011

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		120	127		ng/L		105	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		120	123		ng/L		102	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	119		ng/L		98	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	124		ng/L		103	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	121		ng/L		100	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		120	122		ng/L		101	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	120		ng/L		100	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	127		ng/L		105	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	123		ng/L		102	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	120		ng/L		99	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		120	119		ng/L		99	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	124		ng/L		103	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		120	117		ng/L		97	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	123		ng/L		102	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		120	122		ng/L		101	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	117		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	124		ng/L		103	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	120		ng/L		100	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	115		ng/L		96	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	121		ng/L		100	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	113		ng/L		94	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	108		ng/L		90	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	119		ng/L		98	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	126		ng/L		105	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	123		ng/L		102	70 - 130	1	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	63		50 - 200
13C6 PFDA	53		50 - 200
13C5 PFHxA	69		50 - 200
13C4 PFHpA	62		50 - 200
13C8 PFOA	63		50 - 200
13C9 PFNA	56		50 - 200
13C7 PFUnA	55		50 - 200
13C2 PFDoA	63		50 - 200
13C4 PFBA	73		50 - 200

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QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1 MSD

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

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 160115

Prep Batch: 160011

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C5 PFPeA	70		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	100		50 - 200
13C2-4:2-FTS	119		50 - 200
13C2-6:2-FTS	117		50 - 200
13C2-8:2-FTS	110		50 - 200

Lab Sample ID: MBL 380-160081/20-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 160224

Prep Batch: 160081

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		06/27/25 07:54	06/27/25 18:24	1

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 HFPO-DA	94		50 - 200	06/27/25 07:54	06/27/25 18:24	1

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QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: MBL 380-160081/20-A

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 160081

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	99		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C5 PFHxA	104		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C4 PFHpA	99		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C8 PFOA	108		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C9 PFNA	104		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C7 PFUnA	101		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C2 PFDoA	98		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C4 PFBA	104		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C5 PFPeA	111		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C3 PFBS	102		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C3 PFHxS	106		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C8 PFOS	99		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C2-4:2-FTS	131		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C2-6:2-FTS	121		50 - 200	06/27/25 07:54	06/27/25 18:24	1
13C2-8:2-FTS	118		50 - 200	06/27/25 07:54	06/27/25 18:24	1

Lab Sample ID: LCS 380-160081/22-A

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	54.9		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	55.0		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	58.1		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	57.6		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	56.7		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	56.7		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	58.4		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	57.9		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	55.8		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	58.7		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	60.2	55.8		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	55.0		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	53.4		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	54.4		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	58.1		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	55.3		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	56.3		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	56.7		ng/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: LCS 380-160081/22-A

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	56.9		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	56.0		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	57.1		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	56.6		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	57.6		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	53.9		ng/L		90	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	53.6		ng/L		89	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	108		50 - 200
13C5 PFHxA	105		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	111		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	135		50 - 200
13C2-6:2-FTS	131		50 - 200
13C2-8:2-FTS	128		50 - 200

Lab Sample ID: MRL 380-160081/21-A

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.14	J	ng/L		106	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.03	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.09	J	ng/L		104	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.21	J	ng/L		110	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: MRL 380-160081/21-A

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.24	J	ng/L		111	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.19	J	ng/L		109	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.25	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.23	J	ng/L		111	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.38	J	ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.19	J	ng/L		109	50 - 150
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.21	J	ng/L		110	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.05	J	ng/L		102	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	114		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	137		50 - 200
13C2-6:2-FTS	129		50 - 200
13C2-8:2-FTS	120		50 - 200

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157088-B-1-A MS

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		60.4	58.2		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		60.4	59.2		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	58.8		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	58.9		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	8.9		60.4	65.9		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	60.2		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	58.9		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	61.1		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	7.6		60.4	66.0		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	61.0		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	59.2		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	9.7		60.4	69.5		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	4.0		60.4	60.7		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	59.1		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	6.1		60.4	65.5		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	56.7		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	57.0		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	61.1		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	57.7		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.4	58.1		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	61.8		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	57.0		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	57.2		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	58.4		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	60.2		ng/L		97	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	102		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	104		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	104		50 - 200
13C4 PFBA	105		50 - 200

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157088-B-1-A MS

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 160081

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C5 PFPeA	119		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	132		50 - 200
13C2-6:2-FTS	129		50 - 200
13C2-8:2-FTS	128		50 - 200

Lab Sample ID: 380-157088-C-1-A MSD

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	58.5		ng/L		97	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	58.5		ng/L		97	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.5		ng/L		97	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	57.8		ng/L		96	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	8.9		60.2	66.9		ng/L		96	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	60.7		ng/L		101	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.0		ng/L		96	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	60.8		ng/L		100	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	7.6		60.2	63.5		ng/L		93	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	60.6		ng/L		99	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	61.3		ng/L		99	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	9.7		60.2	68.4		ng/L		97	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	4.0		60.2	61.1		ng/L		95	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.0		ng/L		98	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	6.1		60.2	65.2		ng/L		98	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	57.2		ng/L		95	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	56.8		ng/L		94	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	59.4		ng/L		99	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	59.0		ng/L		98	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfoni acid (PFEESA)	<2.0		60.2	57.9		ng/L		96	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.0		ng/L		98	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	57.4		ng/L		95	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.7		ng/L		94	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	58.3		ng/L		97	70 - 130	0	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157088-C-1-A MSD

Matrix: Water

Analysis Batch: 160224

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 160081

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	59.3		ng/L		96	70 - 130	2	30
Isotope Dilution											
	MSD %Recovery	MSD Qualifier	Limits								
13C3 HFPO-DA	92		50 - 200								
13C6 PFDA	93		50 - 200								
13C5 PFHxA	93		50 - 200								
13C4 PFHpA	96		50 - 200								
13C8 PFOA	98		50 - 200								
13C9 PFNA	95		50 - 200								
13C7 PFUnA	97		50 - 200								
13C2 PFDoA	98		50 - 200								
13C4 PFBA	104		50 - 200								
13C5 PFPeA	111		50 - 200								
13C3 PFBS	102		50 - 200								
13C3 PFHxS	107		50 - 200								
13C8 PFOS	103		50 - 200								
13C2-4:2-FTS	128		50 - 200								
13C2-6:2-FTS	127		50 - 200								
13C2-8:2-FTS	122		50 - 200								

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

Lab Sample ID: MB 380-159952/20-A

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 159952

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUs)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: MB 380-159952/20-A

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 159952

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/26/25 11:53	06/27/25 06:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	85		70 - 130	06/26/25 11:53	06/27/25 06:25	1
13C2 PFHxA	86		70 - 130	06/26/25 11:53	06/27/25 06:25	1
13C2 PFDA	90		70 - 130	06/26/25 11:53	06/27/25 06:25	1
13C3-GenX	82		70 - 130	06/26/25 11:53	06/27/25 06:25	1

Lab Sample ID: LCS 380-159952/22-A

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 159952

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.0	22.4		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.0	24.9		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	24.7		ng/L		99	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	23.7		ng/L		95	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	23.1		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	24.5		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	24.9		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	25.1		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	25.6		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	24.7		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	24.6		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	24.7		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	25.0	26.4		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	24.1		ng/L		96	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	25.0	26.3		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	24.3		ng/L		97	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	24.3		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	25.0		ng/L		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	96		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	90		70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: MRL 380-159952/21-A

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 159952

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.96	J	ng/L		98	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.94	J	ng/L		97	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.97	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.80	J	ng/L		90	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.10	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.89	J	ng/L		94	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.87	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.06	J	ng/L		103	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	101		70 - 130
13C2 PFDA	99		70 - 130
13C3-GenX	98		70 - 130

Lab Sample ID: 380-157187-B-1-A MS

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 159952

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	F1 F2	50.2	98.8	E F1	ng/L		197	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.9	F1 F2	50.2	106	E F1	ng/L		204	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0	F1 F2	50.2	104	E F1	ng/L		207	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0	F1 F2	50.2	99.5	E F1	ng/L		198	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0	F1 F2	50.2	96.7	E F1	ng/L		193	70 - 130
Perfluorohexanoic acid (PFHxA)	3.3	F1 F2	50.2	108	E F1	ng/L		208	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157187-B-1-A MS

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 159952

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA)	<2.0	F1 F2	50.2	98.8	E F1	ng/L		197	70 - 130
Perfluorooctanoic acid (PFOA)	3.4	F1 F2	50.2	109	E F1	ng/L		211	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0	F1 F2	50.2	104	E F1	ng/L		208	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.0	F1 F2	50.2	104	E F1	ng/L		200	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.6	F1 F2	50.2	105	E F1	ng/L		204	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0	F1 F2	50.2	103	E F1	ng/L		203	70 - 130
Perfluorononanoic acid (PFNA)	<2.0	F1 F2	50.2	105	E F1	ng/L		209	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0	F1 F2	50.2	87.9	E F1	ng/L		175	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	<2.0	F1 F2	50.2	105	E F1	ng/L		210	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0	F1 F2	50.2	96.7	E F1	ng/L		193	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0	F1 F2	50.2	94.7	E F1	ng/L		189	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0	F1 F2	50.2	103	E F1	ng/L		205	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
d5-NEtFOSAA	98		70 - 130						
13C2 PFHxA	99		70 - 130						
13C2 PFDA	101		70 - 130						
13C3-GenX	99		70 - 130						

Lab Sample ID: 380-157187-C-1-A MSD

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 159952

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	F1 F2	50.3	50.6	F2	ng/L		101	70 - 130	64	30
Perfluorooctanesulfonic acid (PFOS)	3.9	F1 F2	50.3	54.9	F2	ng/L		101	70 - 130	64	30
Perfluoroundecanoic acid (PFUnA)	<2.0	F1 F2	50.3	48.3	F2	ng/L		96	70 - 130	73	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0	F1 F2	50.3	48.8	F2	ng/L		97	70 - 130	68	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0	F1 F2	50.3	48.6	F2	ng/L		97	70 - 130	66	30
Perfluorohexanoic acid (PFHxA)	3.3	F1 F2	50.3	53.5	F2	ng/L		100	70 - 130	67	30
Perfluorododecanoic acid (PFDoA)	<2.0	F1 F2	50.3	48.5	F2	ng/L		96	70 - 130	68	30
Perfluorooctanoic acid (PFOA)	3.4	F1 F2	50.3	55.8	F2	ng/L		104	70 - 130	65	30
Perfluorodecanoic acid (PFDA)	<2.0	F1 F2	50.3	51.2	F2	ng/L		102	70 - 130	68	30
Perfluorohexanesulfonic acid (PFHxS)	3.0	F1 F2	50.3	55.5	F2	ng/L		104	70 - 130	60	30
Perfluorobutanesulfonic acid (PFBS)	2.6	F1 F2	50.3	53.3	F2	ng/L		101	70 - 130	65	30
Perfluoroheptanoic acid (PFHpA)	<2.0	F1 F2	50.3	53.5	F2	ng/L		103	70 - 130	64	30
Perfluorononanoic acid (PFNA)	<2.0	F1 F2	50.3	52.3	F2	ng/L		104	70 - 130	67	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157187-C-1-A MSD

Matrix: Water

Analysis Batch: 160070

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 159952

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTA)	<2.0	F1 F2	50.3	41.8	F2	ng/L		83	70 - 130	71	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0	F1 F2	50.3	50.5	F2	ng/L		100	70 - 130	70	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0	F1 F2	50.3	50.7	F2	ng/L		101	70 - 130	62	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0	F1 F2	50.3	48.0	F2	ng/L		95	70 - 130	65	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0	F1 F2	50.3	51.8	F2	ng/L		103	70 - 130	66	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	94		70 - 130								
13C2 PFHxA	97		70 - 130								
13C2 PFDA	97		70 - 130								
13C3-GenX	96		70 - 130								

QC Association Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

LCMS

Prep Batch: 159952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-157196-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	537.1 DW	
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	537.1 DW	
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	537.1 DW	
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC01)	Total/NA	Water	537.1 DW	
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC01)	Total/NA	Water	537.1 DW	
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TPC01)	Total/NA	Water	537.1 DW	
MB 380-159952/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-159952/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-159952/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-157187-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-157187-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 160011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-157196-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	533	
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	533	
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	533	
MBL 380-160011/20-A	Method Blank	Total/NA	Water	533	
LCS 380-160011/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-160011/21-A	Lab Control Sample	Total/NA	Water	533	
380-157196-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-157196-1 MSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	

Analysis Batch: 160070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-157196-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	159952
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Drinking Water	537.1	159952
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1	159952
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	159952
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP073)	Total/NA	Drinking Water	537.1	159952
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	159952
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	537.1	159952
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC01)	Total/NA	Water	537.1	159952
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC01)	Total/NA	Water	537.1	159952
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TPC01)	Total/NA	Water	537.1	159952
MB 380-159952/20-A	Method Blank	Total/NA	Water	537.1	159952
LCS 380-159952/22-A	Lab Control Sample	Total/NA	Water	537.1	159952
MRL 380-159952/21-A	Lab Control Sample	Total/NA	Water	537.1	159952
380-157187-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	159952
380-157187-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	159952

QC Association Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

LCMS

Prep Batch: 160081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	533	
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	533	
MBL 380-160081/20-A	Method Blank	Total/NA	Water	533	
LCS 380-160081/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-160081/21-A	Lab Control Sample	Total/NA	Water	533	
380-157088-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-157088-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 160115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-157196-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	160011
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0	Total/NA	Drinking Water	533	160011
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	160011
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	160011
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP	Total/NA	Drinking Water	533	160011
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	160011
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	533	160011
MBL 380-160011/20-A	Method Blank	Total/NA	Water	533	160011
LCS 380-160011/22-A	Lab Control Sample	Total/NA	Water	533	160011
MRL 380-160011/21-A	Lab Control Sample	Total/NA	Water	533	160011
380-157196-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	160011
380-157196-1 MSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	160011

Analysis Batch: 160224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	533	160081
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	160081
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF	Total/NA	Water	533	160081
MBL 380-160081/20-A	Method Blank	Total/NA	Water	533	160081
LCS 380-160081/22-A	Lab Control Sample	Total/NA	Water	533	160081
MRL 380-160081/21-A	Lab Control Sample	Total/NA	Water	533	160081
380-157088-B-1-A MS	Matrix Spike	Total/NA	Water	533	160081
380-157088-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	160081

Lab Chronicle

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-1

Date Collected: 06/23/25 09:53

Matrix: Drinking Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 12:21
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 08:48

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

Lab Sample ID: 380-157196-2

Date Collected: 06/23/25 10:24

Matrix: Drinking Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 15:00
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 08:58

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

Lab Sample ID: 380-157196-3

Date Collected: 06/23/25 10:48

Matrix: Drinking Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 15:09
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 09:17

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

Lab Sample ID: 380-157196-4

Date Collected: 06/23/25 11:06

Matrix: Drinking Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 15:19
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 09:27

Lab Chronicle

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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

Lab Sample ID: 380-157196-5

Date Collected: 06/23/25 11:27

Matrix: Drinking Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 15:29
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 09:36

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

Lab Sample ID: 380-157196-6

Date Collected: 06/23/25 09:53

Matrix: Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 15:38
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 09:46

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

Lab Sample ID: 380-157196-7

Date Collected: 06/23/25 10:24

Matrix: Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160011	E2HD	EA POM	06/26/25 16:32
Total/NA	Analysis	533		1	160115	Y5FM	EA POM	06/27/25 15:48
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 09:55

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

Lab Sample ID: 380-157196-8

Date Collected: 06/23/25 10:48

Matrix: Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160081	XTD8	EA POM	06/27/25 07:54
Total/NA	Analysis	533		1	160224	M7ML	EA POM	06/27/25 21:41
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 10:05

Lab Chronicle

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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

Lab Sample ID: 380-157196-9

Date Collected: 06/23/25 11:06

Matrix: Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160081	XTD8	EA POM	06/27/25 07:54
Total/NA	Analysis	533		1	160224	M7ML	EA POM	06/27/25 21:50
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 10:14

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

Lab Sample ID: 380-157196-10

Date Collected: 06/23/25 11:27

Matrix: Water

Date Received: 06/25/25 09:19

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			160081	XTD8	EA POM	06/27/25 07:54
Total/NA	Analysis	533		1	160224	M7ML	EA POM	06/27/25 22:00
Total/NA	Prep	537.1 DW			159952	OTM3	EA POM	06/26/25 11:53
Total/NA	Analysis	537.1		1	160070	SZ9R	EA POM	06/27/25 10:24

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: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

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
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Method Summary

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

Job ID: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

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: 380-157196-1
SDG: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch
Wells, Aiea Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-157196-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	06/23/25 09:53	06/25/25 09:19	HI0000331
380-157196-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	06/23/25 10:24	06/25/25 09:19	HI0000331
380-157196-3	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Drinking Water	06/23/25 10:48	06/25/25 09:19	HI0000331
380-157196-4	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	06/23/25 11:06	06/25/25 09:19	HI0000331
380-157196-5	AIEA WELLS PUMPS 1&2 P2 (260) (331-203-TP400)	Drinking Water	06/23/25 11:27	06/25/25 09:19	HI0000331
380-157196-6	FB: MOANALUA WELLS (331-223-TP202)	Water	06/23/25 09:53	06/25/25 09:19	HI0000331
380-157196-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	06/23/25 10:24	06/25/25 09:19	HI0000331
380-157196-8	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Water	06/23/25 10:48	06/25/25 09:19	HI0000331
380-157196-9	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	06/23/25 11:06	06/25/25 09:19	HI0000331
380-157196-10	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	06/23/25 11:27	06/25/25 09:19	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		Sampler bailey		Lab PM: Arada Rachelle		Carrier Tracking No(s)		COC No: 380-27941-2757 2																							
Client Contact kirk lwamoto		Phone: +1 808 748 5840		E-Mail: Rachelle.Arada@et.euronisus.com		State of Origin		Page Page 2 of 2																							
Company: City & County of Honolulu				PWSID		Job #:																									
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested		Analysis Requested																											
City: Honolulu		TAT Requested (days):		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18 525.2_PREC - (MOD) 525plus PLUS TICs 537.1_DW_PREC - 537.1 Full List 533 - All Analytes 380-157196 COC Total Number of containers																											
State, Zip: HI, 96843		Compliance Project Δ No																													
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023																													
Email: kiwamoto@hbws.org		WO #:																													
Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill		Project #: 38001111																													
Site:		SSOW#:		Preservation Codes A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z other (specify) Other:																											
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs		8015B_GRO_LL - (MOD) GRO		8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18		525.2_PREC - (MOD) 525plus PLUS TICs		537.1_DW_PREC - 537.1 Full List		533 - All Analytes		380-157196 COC		Total Number of containers		Special Instructions/Note	
Moanalua Wells		23-Jun-2025		0953		G		Water																						chlorinated	
Halawa Wells Units 1&2 P 1		23-Jun-2025		1024		G		Water																							
Aiea Gulch Wells Pump 1		23-Jun-2025		1048		G		Water																						chlorinated	
Aiea Gulch Wells Pump 2		23-Jun-2025		1106		G		Water																						chlorinated	
Aiea Wells Pumps 1&2 (260) P 2		23-Jun-2025		1127		G		Water																							
FB Moanalua Wells		23 Jun-2025		0953																											
FB Halawa Wells Units 1&2		23-Jun-2025		1024																											
FB Aiea Gulch Wells Pump 1		23-Jun-2025		1048																											
FB Aiea Gulch Wells Pump 2		23-Jun-2025		1106																											
FB Aiea Wells Pumps 1&2 (260)		23-Jun-2025		1127																											
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																					
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological										☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months																					
Deliverable Requested I II III IV Other (specify)										Special Instructions/QC Requirements																					
Empty Kit Relinquished by				Date		Time		Method of Shipment: FED EX 8822 7306 0351																							
Relinquished by:				Date/Time: 24 JUNE 2025 1400		Company: HBWS		Received by:																							
Relinquished by:				Date/Time:		Company:		Received by:																							
Relinquished by:				Date/Time:		Company:		Received by:																							
Custody Seals Intact.				Custody Seal No		Cooler Temperature(s) °C and Other Remarks: (751K) 4.0 - 0.0 = 4.0																									
Δ Yes Δ No																															



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-157196-1

SDG Number: PFAS: Moanalua Wells, Halawa Wells, Aiea Gulch Wells, Aiea Wells

Login Number: 157196

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	