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ANALYTICAL REPORT

PREPARED FOR

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

Generated 8/22/2024 8:47:22 AM

JOB DESCRIPTION

RED-HILL
PFAS Weekly

JOB NUMBER

380-108673-1

Eurofins Eaton Analytical Pomona

Job Notes

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

Compliance Statement

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

Authorization



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Authorized for release by
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Definitions/Glossary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Qualifiers

LCMS

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

Glossary

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

Case Narrative

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

Job ID: 380-108673-1

Job ID: 380-108673-1

Eurofins Eaton Analytical Pomona

Job Narrative 380-108673-1

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

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

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

Receipt

The samples were received on 8/14/2024 9:38 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.2°C and 3.2°C.

PFAS

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

Detection Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-1

No Detections.

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

Lab Sample ID: 380-108673-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0	ng/L	1		537.1	Total/NA

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

Lab Sample ID: 380-108673-3

No Detections.

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

Lab Sample ID: 380-108673-4

No Detections.

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

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)	2.8		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L	1		537.1	Total/NA

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

Lab Sample ID: 380-108673-6

No Detections.

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

Lab Sample ID: 380-108673-7

No Detections.

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

Lab Sample ID: 380-108673-8

No Detections.

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

Lab Sample ID: 380-108673-9

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: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-108673-10

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-1

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	87		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C6 PFDA	97		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C5 PFHxA	94		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C4 PFHpA	96		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C8 PFOA	95		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C9 PFNA	96		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C7 PFUnA	102		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C2 PFDoA	96		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C4 PFBA	98		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C5 PFPeA	102		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C3 PFBS	107		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C3 PFHxS	108		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C8 PFOS	107		50 - 200	08/16/24 15:48	08/17/24 18:11	1

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Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-1

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	131		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C2-6:2-FTS	124		50 - 200	08/16/24 15:48	08/17/24 18:11	1
13C2-8:2-FTS	113		50 - 200	08/16/24 15:48	08/17/24 18:11	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130			08/17/24 16:21	08/19/24 02:13	1
13C2 PFHxA	110		70 - 130			08/17/24 16:21	08/19/24 02:13	1
13C2 PFDA	113		70 - 130			08/17/24 16:21	08/19/24 02:13	1
13C3-GenX	106		70 - 130			08/17/24 16:21	08/19/24 02:13	1

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

Lab Sample ID: 380-108673-2

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-2

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorohexanoic acid (PFHxA)	2.4		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorooctanesulfonic acid (PFOS)	2.2		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoropentanoic acid (PFPeA)	2.9		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:21	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C6 PFDA	98		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C5 PFHxA	99		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C4 PFHpA	99		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C8 PFOA	96		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C9 PFNA	96		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C7 PFUnA	99		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C2 PFDoA	98		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C4 PFBA	101		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C5 PFPeA	105		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C3 PFBS	112		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C3 PFHxS	106		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C8 PFOS	107		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C2-4:2-FTS	150		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C2-6:2-FTS	127		50 - 200			08/16/24 15:48	08/17/24 18:21	1
13C2-8:2-FTS	112		50 - 200			08/16/24 15:48	08/17/24 18:21	1

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-2

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorooctanesulfonic acid (PFOS)	2.1		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130	08/17/24 16:21	08/19/24 02:23	1
13C2 PFHxA	108		70 - 130	08/17/24 16:21	08/19/24 02:23	1
13C2 PFDA	110		70 - 130	08/17/24 16:21	08/19/24 02:23	1
13C3-GenX	106		70 - 130	08/17/24 16:21	08/19/24 02:23	1

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

Lab Sample ID: 380-108673-3

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-3

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C6 PFDA	100		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C5 PFHxA	90		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C4 PFHpA	94		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C8 PFOA	94		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C9 PFNA	92		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C7 PFUnA	99		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C2 PFDoA	99		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C4 PFBA	91		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C5 PFPeA	87		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C3 PFBS	114		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C3 PFHxS	114		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C8 PFOS	108		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C2-4:2-FTS	137		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C2-6:2-FTS	124		50 - 200	08/16/24 15:48	08/17/24 18:31	1
13C2-8:2-FTS	110		50 - 200	08/16/24 15:48	08/17/24 18:31	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-3

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130			08/17/24 16:21	08/19/24 02:33	1
13C2 PFHxA	106		70 - 130			08/17/24 16:21	08/19/24 02:33	1
13C2 PFDA	109		70 - 130			08/17/24 16:21	08/19/24 02:33	1
13C3-GenX	105		70 - 130			08/17/24 16:21	08/19/24 02:33	1

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

Lab Sample ID: 380-108673-4

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1

Eurolins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-4

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 18:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C6 PFDA	102		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C5 PFHxA	97		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C4 PFHpA	95		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C8 PFOA	96		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C9 PFNA	100		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C7 PFUnA	101		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C2 PFDoA	99		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C4 PFBA	102		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C5 PFPeA	101		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C3 PFBS	110		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C3 PFHxS	110		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C8 PFOS	109		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C2-4:2-FTS	124		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C2-6:2-FTS	119		50 - 200	08/16/24 15:48	08/17/24 18:41	1
13C2-8:2-FTS	107		50 - 200	08/16/24 15:48	08/17/24 18:41	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		08/17/24 16:21	08/19/24 02:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-4

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

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		08/17/24 16:21	08/19/24 02:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		70 - 130			08/17/24 16:21	08/19/24 02:42	1
13C2 PFHxA	107		70 - 130			08/17/24 16:21	08/19/24 02:42	1
13C2 PFDA	105		70 - 130			08/17/24 16:21	08/19/24 02:42	1
13C3-GenX	100		70 - 130			08/17/24 16:21	08/19/24 02:42	1

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorooctanesulfonic acid (PFOS)	2.8		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorooctanoic acid (PFOA)	2.3		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

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		08/16/24 15:48	08/18/24 13:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoropentanoic acid (PFPeA)	2.3		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:30	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	85		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C6 PFDA	105		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C5 PFHxA	92		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C4 PFHpA	90		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C8 PFOA	95		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C9 PFNA	98		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C7 PFUnA	108		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C2 PFDoA	108		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C4 PFBA	99		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C5 PFPeA	107		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C3 PFBS	107		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C3 PFHxS	106		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C8 PFOS	106		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C2-4:2-FTS	113		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C2-6:2-FTS	111		50 - 200			08/16/24 15:48	08/18/24 13:30	1
13C2-8:2-FTS	112		50 - 200			08/16/24 15:48	08/18/24 13:30	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorooctanesulfonic acid (PFOS)	2.7		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorohexanoic acid (PFHxA)	2.2		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorooctanoic acid (PFOA)	2.3		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/17/24 16:21	08/19/24 02:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			08/17/24 16:21	08/19/24 02:52	1
13C2 PFHxA	103		70 - 130			08/17/24 16:21	08/19/24 02:52	1
13C2 PFDA	106		70 - 130			08/17/24 16:21	08/19/24 02:52	1
13C3-GenX	104		70 - 130			08/17/24 16:21	08/19/24 02:52	1

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

Lab Sample ID: 380-108673-6

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-6

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:00	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C6 PFDA	102		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C5 PFHxA	99		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C4 PFHpA	105		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C8 PFOA	104		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C9 PFNA	105		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C7 PFUnA	103		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C2 PFDoA	104		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C4 PFBA	104		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C5 PFPeA	102		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C3 PFBS	105		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C3 PFHxS	106		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C8 PFOS	107		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C2-4:2-FTS	128		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C2-6:2-FTS	121		50 - 200			08/16/24 15:48	08/17/24 19:00	1
13C2-8:2-FTS	105		50 - 200			08/16/24 15:48	08/17/24 19:00	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		08/16/24 14:16	08/20/24 13:48	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 14:16	08/20/24 13:48	1

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-6

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	111		70 - 130	08/16/24 14:16	08/20/24 13:48	1
13C2 PFHxA	98		70 - 130	08/16/24 14:16	08/20/24 13:48	1
13C2 PFDA	102		70 - 130	08/16/24 14:16	08/20/24 13:48	1
13C3-GenX	102		70 - 130	08/16/24 14:16	08/20/24 13:48	1

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

Lab Sample ID: 380-108673-7

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/18/24 13:44	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
13C3 HFPO-DA	82		50 - 200	08/16/24 15:48	08/18/24 13:44	1		
13C6 PFDA	105		50 - 200	08/16/24 15:48	08/18/24 13:44	1		

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-7

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	89		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C4 PFHpA	98		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C8 PFOA	98		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C9 PFNA	101		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C7 PFUnA	106		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C2 PFDoA	107		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C4 PFBA	96		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C5 PFPeA	109		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C3 PFBS	106		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C3 PFHxS	108		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C8 PFOS	109		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C2-4:2-FTS	121		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C2-6:2-FTS	115		50 - 200	08/16/24 15:48	08/18/24 13:44	1
13C2-8:2-FTS	117		50 - 200	08/16/24 15:48	08/18/24 13:44	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	08/16/24 14:16	08/18/24 03:17	1
13C2 PFHxA	104		70 - 130	08/16/24 14:16	08/18/24 03:17	1
13C2 PFDA	108		70 - 130	08/16/24 14:16	08/18/24 03:17	1
13C3-GenX	102		70 - 130	08/16/24 14:16	08/18/24 03:17	1

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-8

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:32	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	89		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C6 PFDA	101		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C5 PFHxA	97		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C4 PFHpA	104		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C8 PFOA	97		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C9 PFNA	105		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C7 PFUnA	104		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C2 PFDoA	105		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C4 PFBA	100		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C5 PFPeA	108		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C3 PFBS	103		50 - 200			08/16/24 15:48	08/17/24 19:32	1
13C3 PFHxS	101		50 - 200			08/16/24 15:48	08/17/24 19:32	1

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Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-8

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	106		50 - 200	08/16/24 15:48	08/17/24 19:32	1
13C2-4:2-FTS	124		50 - 200	08/16/24 15:48	08/17/24 19:32	1
13C2-6:2-FTS	117		50 - 200	08/16/24 15:48	08/17/24 19:32	1
13C2-8:2-FTS	104		50 - 200	08/16/24 15:48	08/17/24 19:32	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130	08/16/24 14:16	08/18/24 03:26	1
13C2 PFHxA	99		70 - 130	08/16/24 14:16	08/18/24 03:26	1
13C2 PFDA	107		70 - 130	08/16/24 14:16	08/18/24 03:26	1
13C3-GenX	101		70 - 130	08/16/24 14:16	08/18/24 03:26	1

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

Lab Sample ID: 380-108673-9

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-9

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C6 PFDA	104		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C5 PFHxA	98		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C4 PFHpA	102		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C8 PFOA	101		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C9 PFNA	101		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C7 PFUnA	103		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C2 PFDoA	105		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C4 PFBA	104		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C5 PFPeA	102		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C3 PFBS	106		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C3 PFHxS	105		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C8 PFOS	108		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C2-4:2-FTS	123		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C2-6:2-FTS	119		50 - 200	08/16/24 15:48	08/17/24 19:41	1
13C2-8:2-FTS	107		50 - 200	08/16/24 15:48	08/17/24 19:41	1

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-9

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	107		70 - 130			08/16/24 14:16	08/18/24 03:36	1
13C2 PFHxA	107		70 - 130			08/16/24 14:16	08/18/24 03:36	1
13C2 PFDA	109		70 - 130			08/16/24 14:16	08/18/24 03:36	1
13C3-GenX	105		70 - 130			08/16/24 14:16	08/18/24 03:36	1

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-108673-10

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-108673-10

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

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		08/16/24 15:48	08/17/24 19:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/16/24 15:48	08/17/24 19:51	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C6 PFDA	102		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C5 PFHxA	98		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C4 PFHpA	105		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C8 PFOA	104		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C9 PFNA	107		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C7 PFUnA	104		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C2 PFDoA	108		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C4 PFBA	101		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C5 PFPeA	105		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C3 PFBS	108		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C3 PFHxS	109		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C8 PFOS	107		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C2-4:2-FTS	128		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C2-6:2-FTS	126		50 - 200			08/16/24 15:48	08/17/24 19:51	1
13C2-8:2-FTS	108		50 - 200			08/16/24 15:48	08/17/24 19:51	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-108673-10

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/16/24 14:16	08/18/24 03:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130	08/16/24 14:16	08/18/24 03:46	1
13C2 PFHxA	101		70 - 130	08/16/24 14:16	08/18/24 03:46	1
13C2 PFDA	106		70 - 130	08/16/24 14:16	08/18/24 03:46	1
13C3-GenX	97		70 - 130	08/16/24 14:16	08/18/24 03:46	1

Action Limit Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-1

Compliance Check

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

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

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

Lab Sample ID: 380-108673-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.4		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.1		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		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)

Lab Sample ID: 380-108673-3

Compliance Check

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

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-3

Compliance Check

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

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

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

Lab Sample ID: 380-108673-4

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: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

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)	2.4		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		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)	2.7		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	2.3		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.5		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-6

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)

Lab Sample ID: 380-108673-7

Compliance Check

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

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

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

Lab Sample ID: 380-108673-8

Compliance Check

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

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-8

Compliance Check

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

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

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

Lab Sample ID: 380-108673-9

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
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: KA'AMILO WELLS

Lab Sample ID: 380-108673-10

Compliance Check

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

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

Eurofins Eaton Analytical Pomona

Surrogate Summary

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

Job ID: 380-108673-1
 SDG: PFAS Weekly

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-108673-1	MOANALUA WELLS (331-223-T	112	110	113	106
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	108	108	110	106
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	109	106	109	105
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	104	107	105	100
380-108673-5	KA'AMILO WELLS	103	103	106	104
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	111	98	102	102
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	109	104	108	102
380-108673-8	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	110	99	107	101
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	107	107	109	105
380-108673-10	FB: KA'AMILO WELLS	110	101	106	97
380-108818-A-1-B MS	Matrix Spike	104	108	108	108
380-108818-A-1-C MSD	Matrix Spike Duplicate	109	108	109	107
380-109055-B-4-A MS	Matrix Spike	103	102	106	98
380-109055-C-4-A MSD	Matrix Spike Duplicate	102	107	106	102
LCS 380-104084/22-A	Lab Control Sample	106	104	107	106
LCS 380-104201/22-A	Lab Control Sample	105	106	115	107
MBL 380-104084/20-A	Method Blank	114	107	112	108
MBL 380-104201/20-A	Method Blank	109	104	115	107
MRL 380-104084/21-A	Lab Control Sample	106	106	104	99
MRL 380-104201/21-A	Lab Control Sample	107	104	106	102

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: 380-108673-1
SDG: PFAS Weekly

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-108673-1	MOANALUA WELLS (331-223-T	87	97	94	96	95	96	102	96
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	89	98	99	99	96	96	99	98
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	80	100	90	94	94	92	99	99
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	86	102	97	95	96	100	101	99
380-108673-5	KA'AMILO WELLS	85	105	92	90	95	98	108	108
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	96	102	99	105	104	105	103	104
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	82	105	89	98	98	101	106	107
380-108673-8	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	89	101	97	104	97	105	104	105
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	91	104	98	102	101	101	103	105
380-108673-10	FB: KA'AMILO WELLS	91	102	98	105	104	107	104	108
380-108677-E-1-A MS	Matrix Spike	83	96	89	95	91	95	99	97
380-108677-F-1-A MSD	Matrix Spike Duplicate	95	102	99	100	100	102	106	103
LCS 380-104072/22-A	Lab Control Sample	101	107	106	109	105	105	107	106
MBL 380-104072/20-A	Method Blank	105	113	110	113	112	112	113	115
MRL 380-104072/21-A	Lab Control Sample	103	105	106	107	109	107	111	110

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-108673-1	MOANALUA WELLS (331-223-T	98	102	107	108	107	131	124	113
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	101	105	112	106	107	150	127	112
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	91	87	114	114	108	137	124	110
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	102	101	110	110	109	124	119	107
380-108673-5	KA'AMILO WELLS	99	107	107	106	106	113	111	112
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	104	102	105	106	107	128	121	105
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	96	109	106	108	109	121	115	117
380-108673-8	FB: AIEA GULCH WELLS PUMF 2 (331-202-TP072)	100	108	103	101	106	124	117	104
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	104	102	106	105	108	123	119	107
380-108673-10	FB: KA'AMILO WELLS	101	105	108	109	107	128	126	108
380-108677-E-1-A MS	Matrix Spike	95	95	110	111	111	129	129	117
380-108677-F-1-A MSD	Matrix Spike Duplicate	105	104	112	108	110	132	122	114
LCS 380-104072/22-A	Lab Control Sample	112	114	111	109	110	120	123	110
MBL 380-104072/20-A	Method Blank	111	112	112	110	113	137	135	122
MRL 380-104072/21-A	Lab Control Sample	110	110	112	114	111	139	130	116

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA

Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

C8PFOA = 13C8 PFOA

C9PFNA = 13C9 PFNA

13C7PUA = 13C7 PFUnA

PFDoA = 13C2 PFDoA

PFBA = 13C4 PFBA

PFPeA = 13C5 PFPeA

C3PFBS = 13C3 PFBS

C3PFHS = 13C3 PFHxS

C8PFOS = 13C8 PFOS

42FTS = 13C2-4:2-FTS

62FTS = 13C2-6:2-FTS

82FTS = 13C2-8:2-FTS

Job ID: 380-108673-1

SDG: PFAS Weekly

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QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: MBL 380-104072/20-A
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 104072

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/16/24 15:48	08/17/24 16:43	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C6 PFDA	113		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C5 PFHxA	110		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C4 PFHpA	113		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C8 PFOA	112		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C9 PFNA	112		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C7 PFUnA	113		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C2 PFDoA	115		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C4 PFBA	111		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C5 PFPeA	112		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C3 PFBS	112		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C3 PFHxS	110		50 - 200	08/16/24 15:48	08/17/24 16:43	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: MBL 380-104072/20-A
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 104072

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	113		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C2-4:2-FTS	137		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C2-6:2-FTS	135		50 - 200	08/16/24 15:48	08/17/24 16:43	1
13C2-8:2-FTS	122		50 - 200	08/16/24 15:48	08/17/24 16:43	1

Lab Sample ID: LCS 380-104072/22-A
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104072

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	50.4		ng/L		84	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	52.4		ng/L		87	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	53.2		ng/L		88	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	59.4		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	55.3		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	55.0		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	58.9		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	57.1		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	54.5		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	55.8		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	60.2	54.9		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	55.1		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	57.5		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	56.7		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	55.7		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	58.0		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	58.2		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	56.5		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	55.3		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	55.7		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	57.9		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	54.2		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	55.9		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	54.3		ng/L		90	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: LCS 380-104072/22-A
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104072

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.2	53.3		ng/L		89	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	101		50 - 200				
13C6 PFDA	107		50 - 200				
13C5 PFHxA	106		50 - 200				
13C4 PFHpA	109		50 - 200				
13C8 PFOA	105		50 - 200				
13C9 PFNA	105		50 - 200				
13C7 PFUnA	107		50 - 200				
13C2 PFDoA	106		50 - 200				
13C4 PFBA	112		50 - 200				
13C5 PFPeA	114		50 - 200				
13C3 PFBS	111		50 - 200				
13C3 PFHxS	109		50 - 200				
13C8 PFOS	110		50 - 200				
13C2-4:2-FTS	120		50 - 200				
13C2-6:2-FTS	123		50 - 200				
13C2-8:2-FTS	110		50 - 200				

Lab Sample ID: MRL 380-104072/21-A
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104072

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.02	J	ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.08	J	ng/L		104	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.08	J	ng/L		104	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.33	J	ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.14	J	ng/L		107	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: MRL 380-104072/21-A
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104072

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.37	J	ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.23	J	ng/L		111	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.25	J	ng/L		112	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.44	J	ng/L		122	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.16	J	ng/L		108	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	111		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	110		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	139		50 - 200
13C2-6:2-FTS	130		50 - 200
13C2-8:2-FTS	116		50 - 200

Lab Sample ID: 380-108677-E-1-A MS
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 104072

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.5	49.6		ng/L		82	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	52.1		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	51.0		ng/L		84	70 - 130

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108677-E-1-A MS
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 104072

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.5	59.2		ng/L		98	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.5	53.9		ng/L		88	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.5	57.2		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	57.2		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	56.7		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.5	57.0		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.5	59.9		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.5	55.5		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.5	56.7		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.5	58.9		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	57.2		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.5	56.1		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	56.9		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	58.2		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	54.2		ng/L		90	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	53.5		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.5	55.3		ng/L		91	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	54.9		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	53.4		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.5	56.4		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	54.7		ng/L		90	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	52.7		ng/L		87	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	83		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	89		50 - 200
13C4 PFHpA	95		50 - 200
13C8 PFOA	91		50 - 200
13C9 PFNA	95		50 - 200
13C7 PFUnA	99		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	95		50 - 200
13C5 PFPeA	95		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	111		50 - 200
13C8 PFOS	111		50 - 200

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108677-E-1-A MS
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 104072

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	129		50 - 200
13C2-6:2-FTS	129		50 - 200
13C2-8:2-FTS	117		50 - 200

Lab Sample ID: 380-108677-F-1-A MSD
Matrix: Water
Analysis Batch: 104193

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 104072

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	49.2		ng/L		81	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	53.0		ng/L		88	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	53.6		ng/L		89	70 - 130	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	57.4		ng/L		95	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	57.4		ng/L		94	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		60.4	57.8		ng/L		96	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	57.2		ng/L		95	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	58.0		ng/L		96	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	59.3		ng/L		95	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	58.6		ng/L		95	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		60.4	56.4		ng/L		93	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	57.1		ng/L		94	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		60.4	59.7		ng/L		97	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	57.2		ng/L		95	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		60.4	55.5		ng/L		92	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	56.1		ng/L		93	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	55.7		ng/L		92	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	56.7		ng/L		94	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	55.8		ng/L		92	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.4	53.9		ng/L		89	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	56.2		ng/L		93	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	53.3		ng/L		88	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	57.4		ng/L		93	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	55.3		ng/L		92	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	54.8		ng/L		91	70 - 130	4	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	95		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	104		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	110		50 - 200
13C2-4:2-FTS	132		50 - 200
13C2-6:2-FTS	122		50 - 200
13C2-8:2-FTS	114		50 - 200

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

Lab Sample ID: MBL 380-104084/20-A
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 104084

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/16/24 14:16	08/18/24 02:07	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	114		70 - 130			08/16/24 14:16	08/18/24 02:07	1
13C2 PFHxA	107		70 - 130			08/16/24 14:16	08/18/24 02:07	1
13C2 PFDA	112		70 - 130			08/16/24 14:16	08/18/24 02:07	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: MBL 380-104084/20-A
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 104084

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	108		70 - 130	08/16/24 14:16	08/18/24 02:07	1

Lab Sample ID: LCS 380-104084/22-A
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104084

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	24.8		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.1	24.9		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	24.5		ng/L		98	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	24.6		ng/L		98	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	25.3		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	25.6		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	24.2		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	25.1		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	24.7		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	25.9		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	25.2		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.8		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	25.1	25.1		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	21.1		ng/L		84	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	24.3		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	25.1	24.9		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	25.2		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	24.7		ng/L		98	70 - 130

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	106		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	106		70 - 130

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: MRL 380-104084/21-A
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104084

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.30	J	ng/L		115	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.29	J	ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.28	J	ng/L		113	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.20	J	ng/L		110	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.43	J	ng/L		121	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.30	J	ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.42	J	ng/L		121	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.27	J	ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.11	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.56	J	ng/L		128	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.27	J	ng/L		113	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.01	2.26	J	ng/L		112	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.27	J	ng/L		113	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.11	J	ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.22	J	ng/L		111	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	106		70 - 130
13C2 PFHxA	106		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	99		70 - 130

Lab Sample ID: 380-108818-A-1-B MS
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 104084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.3	48.8		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.3	50.4		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	48.8		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	48.7		ng/L		97	70 - 130

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QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108818-A-1-B MS
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 104084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	49.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.3	52.7		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	47.9		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.3	53.1		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.3	50.0		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.3	52.1		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.3	49.6		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	55.0		ng/L		109	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.3	50.6		ng/L		101	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	45.4		ng/L		90	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.3	48.3		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	49.0		ng/L		97	70 - 130
11-Chloroeicosasfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	47.9		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	50.0		ng/L		99	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
d5-NEtFOSAA	104		70 - 130						
13C2 PFHxA	108		70 - 130						
13C2 PFDA	108		70 - 130						
13C3-GenX	108		70 - 130						

Lab Sample ID: 380-108818-A-1-C MSD
Matrix: Water
Analysis Batch: 104199

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 104084

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.3	49.3		ng/L		98	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.3	52.4		ng/L		101	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	47.6		ng/L		95	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	49.6		ng/L		99	70 - 130	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	49.1		ng/L		98	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.3	48.9		ng/L		96	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	48.7		ng/L		97	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		50.3	51.4		ng/L		101	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		50.3	50.2		ng/L		100	70 - 130	0	30

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QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108818-A-1-C MSD

Matrix: Water

Analysis Batch: 104199

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 104084

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.3	51.8		ng/L		101	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.3	51.6		ng/L		101	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	53.2		ng/L		106	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		50.3	48.7		ng/L		97	70 - 130	4	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	45.1		ng/L		90	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.3	48.5		ng/L		96	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	50.6		ng/L		100	70 - 130	3	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	50.4		ng/L		100	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	49.5		ng/L		98	70 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	109		70 - 130
13C2 PFHxA	108		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	107		70 - 130

Lab Sample ID: MBL 380-104201/20-A

Matrix: Water

Analysis Batch: 104220

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 104201

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: MBL 380-104201/20-A
Matrix: Water
Analysis Batch: 104220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 104201

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/17/24 16:21	08/19/24 01:14	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	08/17/24 16:21	08/19/24 01:14	1
13C2 PFHxA	104		70 - 130	08/17/24 16:21	08/19/24 01:14	1
13C2 PFDA	115		70 - 130	08/17/24 16:21	08/19/24 01:14	1
13C3-GenX	107		70 - 130	08/17/24 16:21	08/19/24 01:14	1

Lab Sample ID: LCS 380-104201/22-A
Matrix: Water
Analysis Batch: 104220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	48.3		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.1	48.6		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	50.5		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	48.2		ng/L		96	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	47.8		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	48.2		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	49.1		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	51.0		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	50.1		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	49.3		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	44.8		ng/L		89	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	52.6		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	50.1	51.6		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	43.4		ng/L		87	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	50.1	47.4		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	47.6		ng/L		95	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	46.3		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	49.4		ng/L		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	105		70 - 130
13C2 PFHxA	106		70 - 130
13C2 PFDA	115		70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: LCS 380-104201/22-A
Matrix: Water
Analysis Batch: 104220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104201

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
13C3-GenX	107		70 - 130

Lab Sample ID: MRL 380-104201/21-A
Matrix: Water
Analysis Batch: 104220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 104201

Analyte	Spike Added	MRL MRL		Unit	D	%Rec	Limits
		Result	Qualifier				
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.15	J	ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.23	J	ng/L		112	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.16	J	ng/L		108	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.14	J	ng/L		107	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.09	J	ng/L		105	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.10	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.08	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.00	2.20	J	ng/L		110	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.12	J	ng/L		106	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.11	J	ng/L		105	50 - 150

Surrogate	MRL MRL		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	107		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	106		70 - 130
13C3-GenX	102		70 - 130

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-109055-B-4-A MS
Matrix: Water
Analysis Batch: 104220

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 104201

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	23.2		ng/L		92		70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	24.4		ng/L		94		70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	23.0		ng/L		92		70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	23.2		ng/L		92		70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	23.7		ng/L		94		70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	25.3		ng/L		101		70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	22.6		ng/L		90		70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	25.9		ng/L		101		70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	24.3		ng/L		97		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	24.2		ng/L		97		70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	24.5		ng/L		98		70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.9		ng/L		103		70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	24.1		ng/L		96		70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	18.2		ng/L		72		70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	20.2		ng/L		80		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	23.2		ng/L		92		70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	20.4		ng/L		81		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	24.0		ng/L		96		70 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	103		70 - 130
13C2 PFHxA	102		70 - 130
13C2 PFDA	106		70 - 130
13C3-GenX	98		70 - 130

Lab Sample ID: 380-109055-C-4-A MSD
Matrix: Water
Analysis Batch: 104220

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 104201

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier							
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	23.6		ng/L		94		70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	23.8		ng/L		92		70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	23.8		ng/L		95		70 - 130	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	23.3		ng/L		93		70 - 130	0	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-109055-C-4-A MSD

Matrix: Water

Analysis Batch: 104220

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 104201

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-ethylperfluorooctanesulfonamide doacetic acid (NEtFOSAA)	<2.0		25.1	23.4		ng/L		94	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	25.5		ng/L		102	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	21.8		ng/L		87	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	26.5		ng/L		104	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	23.7		ng/L		95	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	24.2		ng/L		97	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	24.2		ng/L		97	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	26.1		ng/L		104	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	24.8		ng/L		99	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	18.1		ng/L		72	70 - 130	0	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	19.8		ng/L		79	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		25.1	22.4		ng/L		89	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	19.6		ng/L		78	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	24.2		ng/L		97	70 - 130	1	30
Surrogate	%Recovery	MSD Qualifier	MSD	Limits							
d5-NEtFOSAA	102			70 - 130							
13C2 PFHxA	107			70 - 130							
13C2 PFDA	106			70 - 130							
13C3-GenX	102			70 - 130							

QC Association Summary

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

Job ID: 380-108673-1
 SDG: PFAS Weekly

LCMS

Prep Batch: 104072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Water	533	
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	533	
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP072)	Total/NA	Water	533	
380-108673-5	KA'AMILO WELLS	Total/NA	Water	533	
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	533	
380-108673-8	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC02)	Total/NA	Water	533	
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF01)	Total/NA	Water	533	
380-108673-10	FB: KA'AMILO WELLS	Total/NA	Water	533	
MBL 380-104072/20-A	Method Blank	Total/NA	Water	533	
LCS 380-104072/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-104072/21-A	Lab Control Sample	Total/NA	Water	533	
380-108677-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-108677-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 104084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	537.1 DW	
380-108673-8	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC02)	Total/NA	Water	537.1 DW	
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF01)	Total/NA	Water	537.1 DW	
380-108673-10	FB: KA'AMILO WELLS	Total/NA	Water	537.1 DW	
MBL 380-104084/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-104084/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-104084/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-108818-A-1-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-108818-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 104193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	104072
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Water	533	104072
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	533	104072
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP072)	Total/NA	Water	533	104072
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	104072
380-108673-8	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC02)	Total/NA	Water	533	104072
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF01)	Total/NA	Water	533	104072
380-108673-10	FB: KA'AMILO WELLS	Total/NA	Water	533	104072
MBL 380-104072/20-A	Method Blank	Total/NA	Water	533	104072
LCS 380-104072/22-A	Lab Control Sample	Total/NA	Water	533	104072
MRL 380-104072/21-A	Lab Control Sample	Total/NA	Water	533	104072
380-108677-E-1-A MS	Matrix Spike	Total/NA	Water	533	104072
380-108677-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	104072

Analysis Batch: 104199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC01)	Total/NA	Water	537.1	104084
380-108673-8	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC02)	Total/NA	Water	537.1	104084
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TF01)	Total/NA	Water	537.1	104084
380-108673-10	FB: KA'AMILO WELLS	Total/NA	Water	537.1	104084

QC Association Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

LCMS (Continued)

Analysis Batch: 104199 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MBL 380-104084/20-A	Method Blank	Total/NA	Water	537.1	104084
LCS 380-104084/22-A	Lab Control Sample	Total/NA	Water	537.1	104084
MRL 380-104084/21-A	Lab Control Sample	Total/NA	Water	537.1	104084
380-108818-A-1-B MS	Matrix Spike	Total/NA	Water	537.1	104084
380-108818-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	104084

Prep Batch: 104201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Water	537.1 DW	
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	537.1 DW	
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP072)	Total/NA	Water	537.1 DW	
380-108673-5	KA'AMILO WELLS	Total/NA	Water	537.1 DW	
MBL 380-104201/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-104201/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-104201/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-109055-B-4-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-109055-C-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 104210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-5	KA'AMILO WELLS	Total/NA	Water	533	104072
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC)	Total/NA	Water	533	104072

Analysis Batch: 104220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	104201
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP01)	Total/NA	Water	537.1	104201
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	537.1	104201
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP072)	Total/NA	Water	537.1	104201
380-108673-5	KA'AMILO WELLS	Total/NA	Water	537.1	104201
MBL 380-104201/20-A	Method Blank	Total/NA	Water	537.1	104201
LCS 380-104201/22-A	Lab Control Sample	Total/NA	Water	537.1	104201
MRL 380-104201/21-A	Lab Control Sample	Total/NA	Water	537.1	104201
380-109055-B-4-A MS	Matrix Spike	Total/NA	Water	537.1	104201
380-109055-C-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	104201

Analysis Batch: 104344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1	104084

Lab Chronicle

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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

Lab Sample ID: 380-108673-1

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 18:11
Total/NA	Prep	537.1 DW			104201	N8NE	EA POM	08/17/24 16:21
Total/NA	Analysis	537.1		1	104220	SZ9R	EA POM	08/19/24 02:13

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

Lab Sample ID: 380-108673-2

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 18:21
Total/NA	Prep	537.1 DW			104201	N8NE	EA POM	08/17/24 16:21
Total/NA	Analysis	537.1		1	104220	SZ9R	EA POM	08/19/24 02:23

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

Lab Sample ID: 380-108673-3

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 18:31
Total/NA	Prep	537.1 DW			104201	N8NE	EA POM	08/17/24 16:21
Total/NA	Analysis	537.1		1	104220	SZ9R	EA POM	08/19/24 02:33

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

Lab Sample ID: 380-108673-4

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 18:41
Total/NA	Prep	537.1 DW			104201	N8NE	EA POM	08/17/24 16:21
Total/NA	Analysis	537.1		1	104220	SZ9R	EA POM	08/19/24 02:42

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104210	SZ9R	EA POM	08/18/24 13:30

Lab Chronicle

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: KA'AMILO WELLS

Lab Sample ID: 380-108673-5

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			104201	N8NE	EA POM	08/17/24 16:21
Total/NA	Analysis	537.1		1	104220	SZ9R	EA POM	08/19/24 02:52

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

Lab Sample ID: 380-108673-6

Date Collected: 08/12/24 09:32

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 19:00
Total/NA	Prep	537.1 DW			104084	N8NE	EA POM	08/16/24 14:16
Total/NA	Analysis	537.1		1	104344	M7ML	EA POM	08/20/24 13:48

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

Lab Sample ID: 380-108673-7

Date Collected: 08/12/24 10:05

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104210	SZ9R	EA POM	08/18/24 13:44
Total/NA	Prep	537.1 DW			104084	N8NE	EA POM	08/16/24 14:16
Total/NA	Analysis	537.1		1	104199	M7ML	EA POM	08/18/24 03:17

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

Lab Sample ID: 380-108673-8

Date Collected: 08/12/24 10:31

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 19:32
Total/NA	Prep	537.1 DW			104084	N8NE	EA POM	08/16/24 14:16
Total/NA	Analysis	537.1		1	104199	M7ML	EA POM	08/18/24 03:26

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

Lab Sample ID: 380-108673-9

Date Collected: 08/12/24 10:54

Matrix: Water

Date Received: 08/14/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 19:41
Total/NA	Prep	537.1 DW			104084	N8NE	EA POM	08/16/24 14:16
Total/NA	Analysis	537.1		1	104199	M7ML	EA POM	08/18/24 03:36

Lab Chronicle

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

Job ID: 380-108673-1
SDG: PFAS Weekly

Client Sample ID: FB: KA'AMILO WELLS

Lab Sample ID: 380-108673-10

Date Collected: 08/12/24 11:19

Matrix: Water

Date Received: 08/14/24 09:38

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Prep	533			104072	G9MN	EA POM	08/16/24 15:48
Total/NA	Analysis	533		1	104193	M7ML	EA POM	08/17/24 19:51
Total/NA	Prep	537.1 DW			104084	N8NE	EA POM	08/16/24 14:16
Total/NA	Analysis	537.1		1	104199	M7ML	EA POM	08/18/24 03:46

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: 380-108673-1
SDG: PFAS Weekly

Laboratory: Eurofins Eaton Analytical Pomona

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

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

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

Method Summary

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

Job ID: 380-108673-1
SDG: PFAS Weekly

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: 380-108673-1
SDG: PFAS Weekly

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-108673-1	MOANALUA WELLS (331-223-TP202)	Water	08/12/24 09:32	08/14/24 09:38
380-108673-2	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Water	08/12/24 10:05	08/14/24 09:38
380-108673-3	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	08/12/24 10:31	08/14/24 09:38
380-108673-4	AIEA WELLS PUMPS 1&2 (260) P2 (331-203-TP400)	Water	08/12/24 10:54	08/14/24 09:38
380-108673-5	KA'AMILO WELLS	Water	08/12/24 11:19	08/14/24 09:38
380-108673-6	FB: MOANALUA WELLS (331-223-TP202)	Water	08/12/24 09:32	08/14/24 09:38
380-108673-7	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	08/12/24 10:05	08/14/24 09:38
380-108673-8	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	08/12/24 10:31	08/14/24 09:38
380-108673-9	FB: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Water	08/12/24 10:54	08/14/24 09:38
380-108673-10	FB: KA'AMILO WELLS	Water	08/12/24 11:19	08/14/24 09:38



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

Chain of Custody Record



Client Information		Lab PM Arada Rachelle	Carrier Tracking No(s)	COC No: 380 27941 2757 2
Client Contact: Dr Ron Fenstermacher		Email Rachelle.Arada@teuronomisus.com	State of Origin	Page: Page 2 of 2
Company City & County of Honolulu		Job #		
Address: 630 South Beretania Street; Chemistry Lab Honolulu State, Zip HI 96843		Analysis Requested		
Phone: 808-748-5091 (tel)		Total Number of Containers		
Email: rfenstermacher@hbws.org		Preservation Codes		
Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill		M Hexane N None O AsNaO2 P Na2O4S Q Na2SO3 R Na2SO3 S H2SO4 T TSP Dodecahydrate		
Site 36001111		U Acetone V MCAA W pH 4-5 Y Trizma Z other (specify)		
SSOM#		Other		
Due Date Requested		Special Instructions/Note		
TAT Requested (days)		chlorinated		
Compliance Project Δ No		chlorinated		
PO # C20525101 exp 05312023		537 1.DW.PREC 537 1 Full List		
WO #		525 2.PREC (MOD) 525plus PLUS TICs		
Project # 36001111		80158_DRO_LL_CS HNL Ranges C10-C24/C24-C36/C8		
SSOM#		80158_GRO_LL (MOD) GRO		
Sample Identification		SUBCONTRACT 625 PAH Physis LL (EAL) + TICs		
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Matrix (Water, Seawater, Other)
12 Aug-2024	0932	G	G	Water
12 Aug-2024	1005	G	G	Water
12 Aug-2024	1031	G	G	Water
12 Aug-2024	1054	G	G	Water
12-Aug-2024	1119	G	G	Water
12-Aug-2024	0932			
12 Aug 2024	1005			
12 Aug-2024	1031			
12-Aug-2024	1054			
12 Aug-2024	1119			
12-Aug-2024	0932			
12 Aug 2024	1005			
12 Aug-2024	1031			
12-Aug-2024	1054			
12 Aug-2024	1119			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify)				
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Special Instructions/OC Requirements				
Empty Kit Relinquished by _____ Date _____ Time _____				
Relinquished by _____ Date _____ Time _____				
Relinquished by _____ Date _____ Time _____				
Custody Seals Intact: Δ Yes Δ No				



Ver 01.16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-108673-1

SDG Number: PFAS Weekly

Login Number: 108673

List Number: 1

Creator: Ngo, Theodore

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

