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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

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells Units 1&2 P1

JOB NUMBER

380-189492-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Job Notes

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

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Drinking Water and Wastewater West, 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
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1100

Table of Contents

Definitions/Glossary

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

Qualifiers

LCMS

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

Glossary

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

Job Narrative
380-189492-1

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

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

Receipt
The samples were received on 12/24/2025 10:37 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.7°C.

PFAS
EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results: Halawa Wells Units 1 & 2 P1 (380-189492-1). (XWB4)

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: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Lab Sample ID: 380-189492-1

PWSID Number: HI0000331

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.2		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.0		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0		ng/L	1		537.1	Total/NA

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

Lab Sample ID: 380-189492-2

PWSID Number: HI0000331

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)
Date Collected: 12/22/25 09:45
Date Received: 12/24/25 10:37

Lab Sample ID: 380-189492-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorohexanesulfonic acid (PFHxS)	**2.7**		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorohexanoic acid (PFHxA)	**2.1**		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoropentanoic acid (PFPeA)	**2.2**		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*78*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C6 PFDA	*81*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C5 PFHxA	*87*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C4 PFHpA	*86*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C8 PFOA	*89*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C9 PFNA	*82*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C7 PFUnA	*83*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C2 PFDoA	*85*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C4 PFBA	*92*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C5 PFPeA	*95*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C3 PFBS	*99*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*

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

Lab Sample ID: 380-189492-1

Date Collected: 12/22/25 09:45
Date Received: 12/24/25 10:37

Matrix: Drinking Water
PWSID Number: HI0000331

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFHxS	*98*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C8 PFOS	*98*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C2-4:2-FTS	*113*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C2-6:2-FTS	*99*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*
13C2-8:2-FTS	*85*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:21*	*1*

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorooctanesulfonic acid (PFOS)	**3.0**		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorohexanesulfonic acid (PFHxS)	**2.9**		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/29/25 16:25	12/30/25 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*109*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:49*	*1*
13C2 PFHxA	*106*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:49*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:49*	*1*
13C3-GenX	*106*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:49*	*1*

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

Lab Sample ID: 380-189492-2

Date Collected: 12/22/25 09:45
Date Received: 12/24/25 10:37

Matrix: Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/30/25 20:27	12/31/25 13:40	1

Client Sample ID: FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Lab Sample ID: 380-189492-2
Date Collected: 12/22/25 09:45
Matrix: Water
Date Received: 12/24/25 10:37
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6 2 FTS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		12/30/25 20:27	12/31/25 13:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C6 PFDA	*101*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C5 PFHxA	*106*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C4 PFHpA	*108*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C8 PFOA	*107*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C9 PFNA	*109*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C7 PFUnA	*102*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C2 PFDoA	*102*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C4 PFBA	*102*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C5 PFPeA	*104*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C3 PFBS	*103*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C3 PFHxS	*98*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C8 PFOS	*102*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C2-4:2-FTS	*104*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

Client Sample ID: FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)
Date Collected: 12/22/25 09:45
Date Received: 12/24/25 10:37

Lab Sample ID: 380-189492-2
Matrix: Water
PWSID Number: HI0000331

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-6:2-FTS	*88*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*
13C2-8:2-FTS	*89*		*50 - 200*	*12/30/25 20:27*	*12/31/25 13:40*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		12/29/25 16:25	12/30/25 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*104*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:59*	*1*
13C2 PFHxA	*106*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:59*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:59*	*1*
13C3-GenX	*101*		*70 - 130*	*12/29/25 16:25*	*12/30/25 20:59*	*1*

Action Limit Summary

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Lab Sample ID: 380-189492-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.0		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)	2.9		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: 380-189492-2

PWSID Number: HI0000331

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-189492-1	HALAWA WELLS UNITS 1 & 2 F	109	106	108	106

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-189492-2	FB: HALAWA WELLS UNITS 1 &	104	106	107	101
380-189496-A-1-B MS	Matrix Spike	102	106	109	101
380-189496-A-1-C MSD	Matrix Spike Duplicate	109	110	116	107
LCS 380-194879/22-A	Lab Control Sample	104	107	105	101
MBL 380-194879/20-A	Method Blank	99	97	102	90
MRL 380-194879/21-A	Lab Control Sample	106	99	107	97

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: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-189492-1	HALAWA WELLS UNITS 1 & 2 F	78	81	87	86	89	82	83	85

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-189492-1	HALAWA WELLS UNITS 1 & 2 F	92	95	99	98	98	113	99	85

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-189492-2	FB: HALAWA WELLS UNITS 1 &	87	101	106	108	107	109	102	102
380-189496-B-1-A MS	Matrix Spike	61	55	66	64	61	57	58	66
380-189496-B-1-B MSD	Matrix Spike Duplicate	84	92	89	88	89	89	96	100
LCS 380-195193/22-A	Lab Control Sample	103	112	112	116	118	123	111	108
MBL 380-195193/20-A	Method Blank	97	109	107	111	111	114	109	111
MRL 380-195193/21-A	Lab Control Sample	100	105	106	107	112	110	102	104

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-189492-2	FB: HALAWA WELLS UNITS 1 &	102	104	103	98	102	104	88	89
380-189496-B-1-A MS	Matrix Spike	66	64	97	101	99	103	91	87
380-189496-B-1-B MSD	Matrix Spike Duplicate	83	85	104	107	105	105	96	89
LCS 380-195193/22-A	Lab Control Sample	108	107	113	119	122	165	184	126
MBL 380-195193/20-A	Method Blank	104	104	98	97	106	119	129	126
MRL 380-195193/21-A	Lab Control Sample	101	101	97	98	101	100	89	87

Surrogate Legend

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

Isotope Dilution Summary

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

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

Lab Sample ID: MBL 380-195193/20-A
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195193

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		12/30/25 20:27	12/31/25 11:07	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C6 PFDA	*109*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C5 PFHxA	*107*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C4 PFHpA	*111*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C8 PFOA	*111*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C9 PFNA	*114*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C7 PFUnA	*109*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C2 PFDoA	*111*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C4 PFBA	*104*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C5 PFPeA	*104*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C3 PFBS	*98*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*
13C3 PFHxS	*97*		*50 - 200*	*12/30/25 20:27*	*12/31/25 11:07*	*1*

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

Lab Sample ID: MBL 380-195193/20-A
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195193

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	106		50 - 200	12/30/25 20:27	12/31/25 11:07	1
13C2-4:2-FTS	119		50 - 200	12/30/25 20:27	12/31/25 11:07	1
13C2-6:2-FTS	129		50 - 200	12/30/25 20:27	12/31/25 11:07	1
13C2-8:2-FTS	126		50 - 200	12/30/25 20:27	12/31/25 11:07	1

Lab Sample ID: LCS 380-195193/22-A
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195193

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	55.0		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	61.8		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	63.4		ng/L		105	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	65.5		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	64.7		ng/L		107	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	62.2		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	62.2		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	61.8		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	62.2		ng/L		103	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	60.3		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	60.2	60.8		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	60.5		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	60.8		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	60.8		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	61.0		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	64.1		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	64.7		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	64.6		ng/L		107	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	62.7		ng/L		104	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	60.7		ng/L		101	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	57.2		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	56.3		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	63.6		ng/L		106	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	63.1		ng/L		105	70 - 130

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

Lab Sample ID: LCS 380-195193/22-A
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195193

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			60.2	61.3		ng/L		102	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*103*		*50 - 200*
13C6 PFDA	*112*		*50 - 200*
13C5 PFHxA	*112*		*50 - 200*
13C4 PFHpA	*116*		*50 - 200*
13C8 PFOA	*118*		*50 - 200*
13C9 PFNA	*123*		*50 - 200*
13C7 PFUnA	*111*		*50 - 200*
13C2 PFDoA	*108*		*50 - 200*
13C4 PFBA	*108*		*50 - 200*
13C5 PFPeA	*107*		*50 - 200*
13C3 PFBS	*113*		*50 - 200*
13C3 PFHxS	*119*		*50 - 200*
13C8 PFOS	*122*		*50 - 200*
13C2-4:2-FTS	*165*		*50 - 200*
13C2-6:2-FTS	*184*		*50 - 200*
13C2-8:2-FTS	*126*		*50 - 200*

Lab Sample ID: MRL 380-195193/21-A
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195193

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.01	1.94	J	ng/L		96	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.01	2.13	J	ng/L		106	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.01	2.11	J	ng/L		105	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.01	1.93	J	ng/L		96	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.01	2.16	J	ng/L		107	50 - 150		
Perfluorodecanoic acid (PFDA)			2.01	2.09	J	ng/L		104	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.01	2.17	J	ng/L		108	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.01	2.17	J	ng/L		108	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.01	2.08	J	ng/L		104	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.01	1.98	J	ng/L		98	50 - 150		
Perfluorononanoic acid (PFNA)			2.01	2.03	J	ng/L		101	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.01	2.08	J	ng/L		104	50 - 150		
Perfluorooctanoic acid (PFOA)			2.01	2.02	J	ng/L		100	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.01	2.13	J	ng/L		106	50 - 150		
Perfluorobutanoic acid (PFBA)			2.01	2.07	J	ng/L		103	50 - 150		

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

Lab Sample ID: MRL 380-195193/21-A
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195193

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.22	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.20	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.32	J	ng/L		116	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.26	J	ng/L		112	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.88	J	ng/L		94	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.88	J	ng/L		94	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.05	J	ng/L		102	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*100*		*50 - 200*
13C6 PFDA	*105*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*107*		*50 - 200*
13C8 PFOA	*112*		*50 - 200*
13C9 PFNA	*110*		*50 - 200*
13C7 PFUnA	*102*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*101*		*50 - 200*
13C5 PFPeA	*101*		*50 - 200*
13C3 PFBS	*97*		*50 - 200*
13C3 PFHxS	*98*		*50 - 200*
13C8 PFOS	*101*		*50 - 200*
13C2-4:2-FTS	*100*		*50 - 200*
13C2-6:2-FTS	*89*		*50 - 200*
13C2-8:2-FTS	*87*		*50 - 200*

Lab Sample ID: 380-189496-B-1-A MS
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195193

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	111		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	117		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	108		ng/L		89	70 - 130

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

Lab Sample ID: 380-189496-B-1-A MS
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195193

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	111		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	122		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	120		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	119		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	119		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	116		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	115		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	117		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	122		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	116		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	122		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	124		ng/L		103	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	106		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		120	123		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	102		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	102		ng/L		85	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	119		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	119		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	115		ng/L		95	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*61*		*50 - 200*
13C6 PFDA	*55*		*50 - 200*
13C5 PFHxA	*66*		*50 - 200*
13C4 PFHpA	*64*		*50 - 200*
13C8 PFOA	*61*		*50 - 200*
13C9 PFNA	*57*		*50 - 200*
13C7 PFUnA	*58*		*50 - 200*
13C2 PFDoA	*66*		*50 - 200*
13C4 PFBA	*66*		*50 - 200*
13C5 PFPeA	*64*		*50 - 200*
13C3 PFBS	*97*		*50 - 200*
13C3 PFHxS	*101*		*50 - 200*
13C8 PFOS	*99*		*50 - 200*

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

Lab Sample ID: 380-189496-B-1-A MS
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195193

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2-4:2-FTS	*103*		*50 - 200*
13C2-6:2-FTS	*91*		*50 - 200*
13C2-8:2-FTS	*87*		*50 - 200*

Lab Sample ID: 380-189496-B-1-B MSD
Matrix: Water
Analysis Batch: 195228

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 195193

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	113		ng/L		93	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	115		ng/L		96	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	111		ng/L		92	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	116		ng/L		96	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	120		ng/L		100	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		121	121		ng/L		100	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	120		ng/L		99	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	121		ng/L		100	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	114		ng/L		95	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	117		ng/L		97	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		121	120		ng/L		100	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	119		ng/L		99	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		121	118		ng/L		97	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	120		ng/L		99	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		121	119		ng/L		99	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	119		ng/L		99	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	117		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	119		ng/L		99	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	111		ng/L		92	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	119		ng/L		98	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	113		ng/L		94	70 - 130	10	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	107		ng/L		88	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	120		ng/L		100	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	119		ng/L		99	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	119		ng/L		99	70 - 130	4	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	84		50 - 200
13C6 PFDA	92		50 - 200
13C5 PFHxA	89		50 - 200
13C4 PFHpA	88		50 - 200
13C8 PFOA	89		50 - 200
13C9 PFNA	89		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	83		50 - 200
13C5 PFPeA	85		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	96		50 - 200
13C2-8:2-FTS	89		50 - 200

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

Lab Sample ID: MBL 380-194879/20-A
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194879

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		12/29/25 16:25	12/30/25 18:51	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		12/29/25 16:25	12/30/25 18:51	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130	12/29/25 16:25	12/30/25 18:51	1
13C2 PFHxA	97		70 - 130	12/29/25 16:25	12/30/25 18:51	1
13C2 PFDA	102		70 - 130	12/29/25 16:25	12/30/25 18:51	1

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

Lab Sample ID: MBL 380-194879/20-A
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194879

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	90		70 - 130	12/29/25 16:25	12/30/25 18:51	1

Lab Sample ID: LCS 380-194879/22-A
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.2	49.9		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.2	51.0		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	50.8		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	51.4		ng/L		102	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.2	49.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	49.6		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	50.3		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	51.3		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	51.8		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.2	51.1		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.2	49.5		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	52.7		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	50.2	50.9		ng/L		101	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.2	37.1		ng/L		74	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	51.1		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.2	51.1		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.2	48.6		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.2	50.6		ng/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	101		70 - 130

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

Lab Sample ID: MRL 380-194879/21-A
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194879

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.05	J	ng/L		102	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.18	J	ng/L		108	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.18	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.10	J	ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.19	J	ng/L		109	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.46	J	ng/L		73	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	1.84	J	ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.93	J	ng/L		96	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.72	J	ng/L		86	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.15	J	ng/L		107	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*106*		*70 - 130*
13C2 PFHxA	*99*		*70 - 130*
13C2 PFDA	*107*		*70 - 130*
13C3-GenX	*97*		*70 - 130*

Lab Sample ID: 380-189496-A-1-B MS
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.3	49.0		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.3	52.8		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	52.0		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	50.8		ng/L		101	70 - 130

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

Lab Sample ID: 380-189496-A-1-B MS
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	50.6		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.3	50.4		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	50.9		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.3	52.8		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.3	53.1		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.3	52.6		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.3	52.6		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	52.8		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.3	50.2		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	43.2		ng/L		86	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.3	51.7		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	53.4		ng/L		106	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	50.1		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	51.7		ng/L		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*102*		*70 - 130*
13C2 PFHxA	*106*		*70 - 130*
13C2 PFDA	*109*		*70 - 130*
13C3-GenX	*101*		*70 - 130*

Lab Sample ID: 380-189496-A-1-C MSD
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 194879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	51.9		ng/L		103	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	55.3		ng/L		110	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	56.6		ng/L		113	70 - 130	8	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	52.7		ng/L		105	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	52.7		ng/L		105	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	52.7		ng/L		105	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	54.0		ng/L		108	70 - 130	6	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	55.5		ng/L		111	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	56.1		ng/L		112	70 - 130	6	30

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

Lab Sample ID: 380-189496-A-1-C MSD
Matrix: Water
Analysis Batch: 194988

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 194879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	54.4		ng/L		108	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	53.4		ng/L		106	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	53.4		ng/L		106	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	54.1		ng/L		108	70 - 130	7	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	48.0		ng/L		96	70 - 130	11	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	55.8		ng/L		111	70 - 130	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	54.3		ng/L		108	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	50.7		ng/L		101	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	52.1		ng/L		104	70 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*109*		*70 - 130*
13C2 PFHxA	*110*		*70 - 130*
13C2 PFDA	*116*		*70 - 130*
13C3-GenX	*107*		*70 - 130*

LCMS

Prep Batch: 194879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189492-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	537.1 DW	
380-189492-2	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	537.1 DW	
MBL 380-194879/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-194879/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-194879/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-189496-A-1-B MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-189496-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 194988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189492-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	537.1	194879
380-189492-2	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	537.1	194879
MBL 380-194879/20-A	Method Blank	Total/NA	Water	537.1	194879
LCS 380-194879/22-A	Lab Control Sample	Total/NA	Water	537.1	194879
MRL 380-194879/21-A	Lab Control Sample	Total/NA	Water	537.1	194879
380-189496-A-1-B MS	Matrix Spike	Total/NA	Water	537.1	194879
380-189496-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	194879

Prep Batch: 195193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189492-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	533	
380-189492-2	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	533	
MBL 380-195193/20-A	Method Blank	Total/NA	Water	533	
LCS 380-195193/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-195193/21-A	Lab Control Sample	Total/NA	Water	533	
380-189496-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-189496-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 195228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189492-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP0(	Total/NA	Drinking Water	533	195193
380-189492-2	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TPC	Total/NA	Water	533	195193
MBL 380-195193/20-A	Method Blank	Total/NA	Water	533	195193
LCS 380-195193/22-A	Lab Control Sample	Total/NA	Water	533	195193
MRL 380-195193/21-A	Lab Control Sample	Total/NA	Water	533	195193
380-189496-B-1-A MS	Matrix Spike	Total/NA	Water	533	195193
380-189496-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	195193

Lab Chronicle

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Lab Sample ID: 380-189492-1

Date Collected: 12/22/25 09:45
Date Received: 12/24/25 10:37

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			195193	N8NE	EA POM	12/30/25 20:27
Total/NA	Analysis	533		1	195228	SZ9R	EA POM	12/31/25 13:21
Total/NA	Prep	537.1 DW			194879	E2HD	EA POM	12/29/25 16:25
Total/NA	Analysis	537.1		1	194988	SZ9R	EA POM	12/30/25 20:49

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

Lab Sample ID: 380-189492-2

Date Collected: 12/22/25 09:45
Date Received: 12/24/25 10:37

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			195193	N8NE	EA POM	12/30/25 20:27
Total/NA	Analysis	533		1	195228	SZ9R	EA POM	12/31/25 13:40
Total/NA	Prep	537.1 DW			194879	E2HD	EA POM	12/29/25 16:25
Total/NA	Analysis	537.1		1	194988	SZ9R	EA POM	12/30/25 20:59

Laboratory References:

EA POM = Eurofins 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: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

Laboratory: Eurofins Pomona

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

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

Method Summary

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

Job ID: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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 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: 380-189492-1
SDG: PFAS: Halawa Wells Units 1&2 P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-189492-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	12/22/25 09:45	12/24/25 10:37	HI0000331
380-189492-2	FB: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	12/22/25 09:45	12/24/25 10:37	HI0000331

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: bailey	Lab PM: Lopez Maria	Carrier Tracking No(s):	COC No:
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:
City: Honolulu	TAT Requested (days):
State, Zip: HI 96843	Compliance Project: Δ No
Phone: 808-748-5840 (tel)	PO #: C20525101 exp 05312023
Email: kiwamoto@hbws.org	WO #:
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111
Site:	SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL (MOD) GRO	8015B_DRO_LL_CS HNL Ranges C10-C24/C24-C36/C8-C18	525 2_PREC (MOD) 525plus PLUS TICs	537 1_DW_PREC 537 1 Full List	533 All Analytes	Total Number of containers	Special Instructions/Note
			Preservation Code:				R	A	Q	QA	Y	I		
Halawa Wells Units 1&2 P1	22-Dec-2025	0945	G	Water							3	3		
FB Halawa Wells Units 1&2	22-Dec-2025	0945	G								1	1		

Preservation Codes
A HCL; B - NaOH; C - Zn Acetate; D Nitric Acid; E NaHSO4; F MeOH; G Amchlor; H - Ascorbic Acid; I Ice; J - DI Water; K EDTA; L - EDA
M - Hexane; N None; O AsNaO2; P Na2O4S; Q Na2SO3; R Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U Acetone; V - MCAA; W pH 4-5; Y Trizma; Z other (specify)
Other:

380-189492 COC

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Deliverable Requested I II III IV Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ________ Months*

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment: 8373 5122 3071	
[redacted]	Date/Time: [illegible]	Company: HBWS	Received by: [signature]	Date/Time: 12/24/25 1037	Company: EETA
	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No		Cooler Temperature(s) °C and Other Remarks: 0.7 / 0.7 6314 Blue Ice PART FROZEN		

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-189492-1
SDG Number: PFAS: Halawa Wells Units 1&2 P1

Login Number: 189492
List Number: 1
Creator: Sanchez, Joseph G

List Source: Eurofins 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	
ClO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	