eurofins | Environment Testing

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 5/27/2026 3:57:01 PM

JOB DESCRIPTION

RED-HILL
PFAS - Moanalua Wells P1

JOB NUMBER

380-214033-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

my EOL

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

Generated
5/27/2026 3:57:01 PM

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: 380-214033-1
SDG: PFAS - Moanalua Wells 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
380-214033-1

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 5/13/2026 9:28 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 2.6°C and 4.4°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: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Client Sample ID: Moanalua Wells P1 — Lab Sample ID: 380-214033-1

No Detections.

Client Sample ID: FB: Moanalua Wells P1 — Lab Sample ID: 380-214033-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Client Sample ID: Moanalua Wells P1

Date Collected: 05/11/26 09:15
Date Received: 05/13/26 09:28

Lab Sample ID: 380-214033-1

Matrix: Water

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		05/21/26 06:02	05/21/26 20:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/21/26 06:02	05/21/26 20:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*104*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C6 PFDA	*109*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C5 PFHxA	*114*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C4 PFHpA	*114*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C8 PFOA	*112*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C9 PFNA	*113*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C7 PFUnA	*106*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C2 PFDoA	*104*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C4 PFBA	*120*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C5 PFPeA	*120*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C3 PFBS	*119*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C3 PFHxS	*116*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*
13C8 PFOS	*115*		*50 - 200*	*05/21/26 06:02*	*05/21/26 20:12*	*1*

Client Sample ID: Moanalua Wells P1

Lab Sample ID: 380-214033-1

Date Collected: 05/11/26 09:15

Matrix: Water

Date Received: 05/13/26 09:28

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	132		50 - 200	05/21/26 06:02	05/21/26 20:12	1
13C2-6:2-FTS	120		50 - 200	05/21/26 06:02	05/21/26 20:12	1
13C2-8:2-FTS	118		50 - 200	05/21/26 06:02	05/21/26 20:12	1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 10:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130	05/16/26 11:18	05/18/26 10:05	1
13C2 PFHxA	109		70 - 130	05/16/26 11:18	05/18/26 10:05	1
13C2 PFDA	103		70 - 130	05/16/26 11:18	05/18/26 10:05	1
13C3-GenX	102		70 - 130	05/16/26 11:18	05/18/26 10:05	1

Client Sample ID: FB: Moanalua Wells P1

Lab Sample ID: 380-214033-2

Date Collected: 05/11/26 09:15

Matrix: Water

Date Received: 05/13/26 09:28

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		05/21/26 06:16	05/22/26 19:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1

Client Sample ID: FB: Moanalua Wells P1
Date Collected: 05/11/26 09:15
Date Received: 05/13/26 09:28

Lab Sample ID: 380-214033-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/21/26 06:16	05/22/26 19:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C6 PFDA	*113*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C5 PFHxA	*105*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C4 PFHpA	*114*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C8 PFOA	*119*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C9 PFNA	*119*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C7 PFUnA	*112*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C2 PFDoA	*116*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C4 PFBA	*110*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C5 PFPeA	*115*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C3 PFBS	*113*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C3 PFHxS	*112*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C8 PFOS	*117*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C2-4:2-FTS	*119*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C2-6:2-FTS	*110*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*
13C2-8:2-FTS	*112*		*50 - 200*	*05/21/26 06:16*	*05/22/26 19:40*	*1*

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1

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

Job ID: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Client Sample ID: FB: Moanalua Wells P1
Date Collected: 05/11/26 09:15
Date Received: 05/13/26 09:28

Lab Sample ID: 380-214033-2
Matrix: Water

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/16/26 11:18	05/18/26 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*105*		*70 - 130*	*05/16/26 11:18*	*05/18/26 11:49*	*1*
13C2 PFHxA	*113*		*70 - 130*	*05/16/26 11:18*	*05/18/26 11:49*	*1*
13C2 PFDA	*105*		*70 - 130*	*05/16/26 11:18*	*05/18/26 11:49*	*1*
13C3-GenX	*105*		*70 - 130*	*05/16/26 11:18*	*05/18/26 11:49*	*1*

Surrogate Summary

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

Job ID: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-214033-1	Moanalua Wells P1	103	109	103	102
380-214033-1 MS	Moanalua Wells P1	113	115	112	110
380-214033-1 MSD	Moanalua Wells P1	107	116	109	104
380-214033-2	FB: Moanalua Wells P1	105	113	105	105
LCS 380-227533/23-A	Lab Control Sample	95	94	105	85
MBL 380-227533/21-A	Method Blank	99	102	110	98
MRL 380-227533/22-A	Lab Control Sample	100	109	106	107

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: 380-214033-1
SDG: PFAS - Moanalua Wells P1

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)
380-213796-B-7-A MS	Matrix Spike	72	73	78	76	77	76	75	78
380-213796-B-7-B MSD	Matrix Spike Duplicate	78	73	82	81	79	75	70	76
380-214033-1	Moanalua Wells P1	104	109	114	114	112	113	106	104
380-214033-2	FB: Moanalua Wells P1	105	113	105	114	119	119	112	116
380-214456-B-1-A MS	Matrix Spike	113	116	116	117	110	111	112	111
380-214456-C-1-A MSD	Matrix Spike Duplicate	118	112	118	111	117	116	113	113
LCS 380-228574/22-A	Lab Control Sample	99	112	106	106	108	108	107	109
LCS 380-228575/22-A	Lab Control Sample	108	116	118	117	116	115	117	115
MBL 380-228574/20-A	Method Blank	89	100	98	103	102	104	96	97
MBL 380-228575/20-A	Method Blank	89	96	97	98	99	97	101	98
MRL 380-228574/21-A	Lab Control Sample	84	100	97	102	102	107	102	100
MRL 380-228575/21-A	Lab Control Sample	103	114	117	111	117	114	119	118

		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)
380-213796-B-7-A MS	Matrix Spike	87	84	112	107	109	118	112	114
380-213796-B-7-B MSD	Matrix Spike Duplicate	93	89	111	110	111	122	115	114
380-214033-1	Moanalua Wells P1	120	120	119	116	115	132	120	118
380-214033-2	FB: Moanalua Wells P1	110	115	113	112	117	119	110	112
380-214456-B-1-A MS	Matrix Spike	113	112	116	113	113	119	114	115
380-214456-C-1-A MSD	Matrix Spike Duplicate	115	113	115	112	115	120	116	113
LCS 380-228574/22-A	Lab Control Sample	121	117	116	114	115	126	127	122
LCS 380-228575/22-A	Lab Control Sample	65	113	119	122	119	122	122	117
MBL 380-228574/20-A	Method Blank	111	114	111	105	111	125	111	112
MBL 380-228575/20-A	Method Blank	100	98	109	113	111	111	112	107
MRL 380-228574/21-A	Lab Control Sample	107	111	114	111	116	123	116	113
MRL 380-228575/21-A	Lab Control Sample	110	115	125	125	126	130	118	124

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

Lab Sample ID: MBL 380-228574/20-A
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228574

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		05/21/26 06:02	05/21/26 15:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		05/21/26 06:02	05/21/26 15:54	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*89*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C6 PFDA	*100*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C5 PFHxA	*98*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C4 PFHpA	*103*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C8 PFOA	*102*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C9 PFNA	*104*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C7 PFUnA	*96*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C2 PFDoA	*97*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C4 PFBA	*111*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C5 PFPeA	*114*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C3 PFBS	*111*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*
13C3 PFHxS	*105*		*50 - 200*	*05/21/26 06:02*	*05/21/26 15:54*	*1*

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

Lab Sample ID: MBL 380-228574/20-A
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228574

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	111		50 - 200	05/21/26 06:02	05/21/26 15:54	1
13C2-4:2-FTS	125		50 - 200	05/21/26 06:02	05/21/26 15:54	1
13C2-6:2-FTS	111		50 - 200	05/21/26 06:02	05/21/26 15:54	1
13C2-8:2-FTS	112		50 - 200	05/21/26 06:02	05/21/26 15:54	1

Lab Sample ID: LCS 380-228574/22-A
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228574

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	103		ng/L		85	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	105		ng/L		87	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	102		ng/L		84	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	104		ng/L		86	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	112		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	120	100		ng/L		83	70 - 130
Perfluorododecanoic acid (PFDoA)	120	107		ng/L		88	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	105		ng/L		87	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	106		ng/L		88	70 - 130
Perfluorohexanoic acid (PFHxA)	120	103		ng/L		85	70 - 130
Perfluorononanoic acid (PFNA)	120	111		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	106		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	120	102		ng/L		85	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	102		ng/L		84	70 - 130
Perfluorobutanoic acid (PFBA)	120	101		ng/L		84	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	102		ng/L		85	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	104		ng/L		86	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	94.8		ng/L		79	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	99.1		ng/L		82	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	112		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	97.3		ng/L		81	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	97.8		ng/L		81	70 - 130
Perfluoropentanoic acid (PFPeA)	120	104		ng/L		87	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	111		ng/L		92	70 - 130

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

Lab Sample ID: LCS 380-228574/22-A
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228574

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	106		ng/L		88	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*99*		*50 - 200*
13C6 PFDA	*112*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*106*		*50 - 200*
13C8 PFOA	*108*		*50 - 200*
13C9 PFNA	*108*		*50 - 200*
13C7 PFUnA	*107*		*50 - 200*
13C2 PFDoA	*109*		*50 - 200*
13C4 PFBA	*121*		*50 - 200*
13C5 PFPeA	*117*		*50 - 200*
13C3 PFBS	*116*		*50 - 200*
13C3 PFHxS	*114*		*50 - 200*
13C8 PFOS	*115*		*50 - 200*
13C2-4:2-FTS	*126*		*50 - 200*
13C2-6:2-FTS	*127*		*50 - 200*
13C2-8:2-FTS	*122*		*50 - 200*

Lab Sample ID: MRL 380-228574/21-A
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228574

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.01	1.65	J	ng/L		82	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.01	1.63	J	ng/L		81	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.01	1.69	J	ng/L		84	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.01	1.90	J	ng/L		95	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.01	1.88	J	ng/L		94	50 - 150		
Perfluorodecanoic acid (PFDA)			2.01	1.80	J	ng/L		90	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.01	2.09	J	ng/L		104	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.01	1.87	J	ng/L		93	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.01	1.86	J	ng/L		93	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.01	1.76	J	ng/L		88	50 - 150		
Perfluorononanoic acid (PFNA)			2.01	1.81	J	ng/L		90	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.01	1.83	J	ng/L		91	50 - 150		
Perfluorooctanoic acid (PFOA)			2.01	1.83	J	ng/L		91	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.01	1.92	J	ng/L		95	50 - 150		
Perfluorobutanoic acid (PFBA)			2.01	1.88	J	ng/L		94	50 - 150		

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

Lab Sample ID: MRL 380-228574/21-A
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228574

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.02	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.04	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	1.99	J	ng/L		99	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.51	J	ng/L		75	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.76	J	ng/L		88	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.84	J	ng/L		91	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.68	J	ng/L		84	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.81	J	ng/L		90	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.82	J	ng/L		91	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.81	J	ng/L		90	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*84*		*50 - 200*
13C6 PFDA	*100*		*50 - 200*
13C5 PFHxA	*97*		*50 - 200*
13C4 PFHpA	*102*		*50 - 200*
13C8 PFOA	*102*		*50 - 200*
13C9 PFNA	*107*		*50 - 200*
13C7 PFUnA	*102*		*50 - 200*
13C2 PFDoA	*100*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*111*		*50 - 200*
13C3 PFBS	*114*		*50 - 200*
13C3 PFHxS	*111*		*50 - 200*
13C8 PFOS	*116*		*50 - 200*
13C2-4:2-FTS	*123*		*50 - 200*
13C2-6:2-FTS	*116*		*50 - 200*
13C2-8:2-FTS	*113*		*50 - 200*

Lab Sample ID: 380-213796-B-7-A MS
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 228574

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	103		ng/L		85	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	104		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	107		ng/L		88	70 - 130

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

Lab Sample ID: 380-213796-B-7-A MS
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 228574

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		121	110		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	108		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	108		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0	*5-	121	108		ng/L		89	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	108		ng/L		89	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	108		ng/L		89	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	118		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	108		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	106		ng/L		88	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0	*5-	121	110		ng/L		91	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	109		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	108		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	110		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	104		ng/L		86	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	102		ng/L		84	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	108		ng/L		90	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	103		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	109		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	109		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	111		ng/L		92	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	107		ng/L		89	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*72*		*50 - 200*
13C6 PFDA	*73*		*50 - 200*
13C5 PFHxA	*78*		*50 - 200*
13C4 PFHpA	*76*		*50 - 200*
13C8 PFOA	*77*		*50 - 200*
13C9 PFNA	*76*		*50 - 200*
13C7 PFUnA	*75*		*50 - 200*
13C2 PFDoA	*78*		*50 - 200*
13C4 PFBA	*87*		*50 - 200*
13C5 PFPeA	*84*		*50 - 200*
13C3 PFBS	*112*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*109*		*50 - 200*

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

Lab Sample ID: 380-213796-B-7-A MS
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 228574

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2-4:2-FTS	*118*		*50 - 200*
13C2-6:2-FTS	*112*		*50 - 200*
13C2-8:2-FTS	*114*		*50 - 200*

Lab Sample ID: 380-213796-B-7-B MSD
Matrix: Water
Analysis Batch: 228751

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 228574

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		120	102		ng/L		85	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	104		ng/L		86	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	105		ng/L		88	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	106		ng/L		88	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	111		ng/L		92	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		120	106		ng/L		88	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0	*5-	120	113		ng/L		94	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	107		ng/L		89	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	109		ng/L		90	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	106		ng/L		88	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		120	119		ng/L		99	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	110		ng/L		91	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		120	107		ng/L		89	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0	*5-	120	108		ng/L		89	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		120	107		ng/L		89	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	108		ng/L		90	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	107		ng/L		89	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	107		ng/L		89	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	109		ng/L		91	70 - 130	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		120	113		ng/L		93	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	104		ng/L		86	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	107		ng/L		89	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	112		ng/L		93	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	113		ng/L		94	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	111		ng/L		92	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	78		50 - 200
13C6 PFDA	73		50 - 200
13C5 PFHxA	82		50 - 200
13C4 PFHpA	81		50 - 200
13C8 PFOA	79		50 - 200
13C9 PFNA	75		50 - 200
13C7 PFUnA	70		50 - 200
13C2 PFDoA	76		50 - 200
13C4 PFBA	93		50 - 200
13C5 PFPeA	89		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	122		50 - 200
13C2-6:2-FTS	115		50 - 200
13C2-8:2-FTS	114		50 - 200

Lab Sample ID: MBL 380-228575/20-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228575

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		05/21/26 06:16	05/22/26 16:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1

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

Lab Sample ID: MBL 380-228575/20-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228575

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		05/21/26 06:16	05/22/26 16:00	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*89*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C6 PFDA	*96*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C5 PFHxA	*97*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C4 PFHpA	*98*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C8 PFOA	*99*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C9 PFNA	*97*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C7 PFUnA	*101*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C2 PFDoA	*98*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C4 PFBA	*100*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C5 PFPeA	*98*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C3 PFBS	*109*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C3 PFHxS	*113*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C8 PFOS	*111*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C2-4:2-FTS	*111*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C2-6:2-FTS	*112*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*
13C2-8:2-FTS	*107*		*50 - 200*	*05/21/26 06:16*	*05/22/26 16:00*	*1*

Lab Sample ID: LCS 380-228575/22-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228575

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.2	53.8		ng/L		89	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.2	57.2		ng/L		95	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.2	55.8		ng/L		93	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.2	55.0		ng/L		91	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			60.2	55.2		ng/L		92	70 - 130		
Perfluorodecanoic acid (PFDA)			60.2	57.9		ng/L		96	70 - 130		
Perfluorododecanoic acid (PFDoA)			60.2	57.4		ng/L		95	70 - 130		
Perfluoroheptanoic acid (PFHpA)			60.2	54.5		ng/L		91	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			60.2	56.5		ng/L		94	70 - 130		
Perfluorohexanoic acid (PFHxA)			60.2	56.2		ng/L		93	70 - 130		
Perfluorononanoic acid (PFNA)			60.2	57.9		ng/L		96	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			60.2	56.6		ng/L		94	70 - 130		
Perfluorooctanoic acid (PFOA)			60.2	55.3		ng/L		92	70 - 130		

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

Lab Sample ID: LCS 380-228575/22-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.2	57.0		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	58.0		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	61.1		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	58.3		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	54.0		ng/L		90	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	52.5		ng/L		87	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	59.0		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	55.1		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	54.8		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	58.2		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	57.8		ng/L		96	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	58.1		ng/L		97	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*108*		*50 - 200*
13C6 PFDA	*116*		*50 - 200*
13C5 PFHxA	*118*		*50 - 200*
13C4 PFHpA	*117*		*50 - 200*
13C8 PFOA	*116*		*50 - 200*
13C9 PFNA	*115*		*50 - 200*
13C7 PFUnA	*117*		*50 - 200*
13C2 PFDoA	*115*		*50 - 200*
13C4 PFBA	*65*		*50 - 200*
13C5 PFPeA	*113*		*50 - 200*
13C3 PFBS	*119*		*50 - 200*
13C3 PFHxS	*122*		*50 - 200*
13C8 PFOS	*119*		*50 - 200*
13C2-4:2-FTS	*122*		*50 - 200*
13C2-6:2-FTS	*122*		*50 - 200*
13C2-8:2-FTS	*117*		*50 - 200*

Lab Sample ID: MRL 380-228575/21-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.85	J	ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.84	J	ng/L		92	50 - 150

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

Lab Sample ID: MRL 380-228575/21-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.89	J	ng/L		94	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.89	J	ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.89	J	ng/L		94	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.04	J	ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.22	J	ng/L		110	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.98	J	ng/L		98	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.04	J	ng/L		102	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.16	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.16	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.21	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.27	J	ng/L		113	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.68	J	ng/L		84	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	2.14	J	ng/L		107	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.70	J	ng/L		85	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.14	J	ng/L		107	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.07	J	ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.97	J	ng/L		98	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*103*		*50 - 200*
13C6 PFDA	*114*		*50 - 200*
13C5 PFHxA	*117*		*50 - 200*
13C4 PFHpA	*111*		*50 - 200*
13C8 PFOA	*117*		*50 - 200*
13C9 PFNA	*114*		*50 - 200*
13C7 PFUnA	*119*		*50 - 200*
13C2 PFDoA	*118*		*50 - 200*
13C4 PFBA	*110*		*50 - 200*
13C5 PFPeA	*115*		*50 - 200*
13C3 PFBS	*125*		*50 - 200*
13C3 PFHxS	*125*		*50 - 200*

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

Lab Sample ID: MRL 380-228575/21-A
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228575

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C8 PFOS	*126*		*50 - 200*
13C2-4:2-FTS	*130*		*50 - 200*
13C2-6:2-FTS	*118*		*50 - 200*
13C2-8:2-FTS	*124*		*50 - 200*

Lab Sample ID: 380-214456-B-1-A MS
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	51.8		ng/L		86	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	54.6		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	54.1		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	54.9		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	51.6		ng/L		86	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	56.8		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	56.9		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	53.3		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	57.4		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	56.0		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	56.5		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	57.2		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.1	56.8		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	56.0		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.1	56.1		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	56.6		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	57.2		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	50.9		ng/L		85	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	53.6		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	57.5		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	56.3		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	54.0		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	57.1		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	56.7		ng/L		94	70 - 130

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

Lab Sample ID: 380-214456-B-1-A MS
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	58.6		ng/L		98	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*113*		*50 - 200*
13C6 PFDA	*116*		*50 - 200*
13C5 PFHxA	*116*		*50 - 200*
13C4 PFHpA	*117*		*50 - 200*
13C8 PFOA	*110*		*50 - 200*
13C9 PFNA	*111*		*50 - 200*
13C7 PFUnA	*112*		*50 - 200*
13C2 PFDoA	*111*		*50 - 200*
13C4 PFBA	*113*		*50 - 200*
13C5 PFPeA	*112*		*50 - 200*
13C3 PFBS	*116*		*50 - 200*
13C3 PFHxS	*113*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*119*		*50 - 200*
13C2-6:2-FTS	*114*		*50 - 200*
13C2-8:2-FTS	*115*		*50 - 200*

Lab Sample ID: 380-214456-C-1-A MSD
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	49.9		ng/L		83	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	52.5		ng/L		87	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	57.6		ng/L		96	70 - 130	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	52.4		ng/L		87	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	54.8		ng/L		91	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	57.5		ng/L		95	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	55.6		ng/L		92	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	56.1		ng/L		93	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	55.0		ng/L		91	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	55.2		ng/L		92	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	54.7		ng/L		91	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	55.0		ng/L		91	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	54.5		ng/L		91	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	57.1		ng/L		95	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	56.3		ng/L		93	70 - 130	0	30

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

Lab Sample ID: 380-214456-C-1-A MSD
Matrix: Water
Analysis Batch: 228984

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 228575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	55.4		ng/L		92	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	58.3		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	52.9		ng/L		88	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	51.5		ng/L		86	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	57.5		ng/L		95	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	57.1		ng/L		95	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	56.1		ng/L		93	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.2		ng/L		95	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	55.8		ng/L		93	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	57.7		ng/L		96	70 - 130	2	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*118*		*50 - 200*
13C6 PFDA	*112*		*50 - 200*
13C5 PFHxA	*118*		*50 - 200*
13C4 PFHpA	*111*		*50 - 200*
13C8 PFOA	*117*		*50 - 200*
13C9 PFNA	*116*		*50 - 200*
13C7 PFUnA	*113*		*50 - 200*
13C2 PFDoA	*113*		*50 - 200*
13C4 PFBA	*115*		*50 - 200*
13C5 PFPeA	*113*		*50 - 200*
13C3 PFBS	*115*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*
13C8 PFOS	*115*		*50 - 200*
13C2-4:2-FTS	*120*		*50 - 200*
13C2-6:2-FTS	*116*		*50 - 200*
13C2-8:2-FTS	*113*		*50 - 200*

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Lab Sample ID: MBL 380-227533/21-A
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 227533

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		05/16/26 11:18	05/18/26 09:36	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: MBL 380-227533/21-A
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 227533

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		05/16/26 11:18	05/18/26 09:36	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*99*		*70 - 130*	*05/16/26 11:18*	*05/18/26 09:36*	*1*
13C2 PFHxA	*102*		*70 - 130*	*05/16/26 11:18*	*05/18/26 09:36*	*1*
13C2 PFDA	*110*		*70 - 130*	*05/16/26 11:18*	*05/18/26 09:36*	*1*
13C3-GenX	*98*		*70 - 130*	*05/16/26 11:18*	*05/18/26 09:36*	*1*

Lab Sample ID: LCS 380-227533/23-A
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227533

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			25.1	20.2		ng/L		80	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			25.1	27.9		ng/L		111	70 - 130		
Perfluoroundecanoic acid (PFUnA)			25.1	26.1		ng/L		104	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			25.1	21.6		ng/L		86	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			25.1	22.4		ng/L		89	70 - 130		
Perfluorohexanoic acid (PFHxA)			25.1	23.6		ng/L		94	70 - 130		
Perfluorododecanoic acid (PFDoA)			25.1	25.6		ng/L		102	70 - 130		
Perfluorooctanoic acid (PFOA)			25.1	24.3		ng/L		97	70 - 130		
Perfluorodecanoic acid (PFDA)			25.1	27.4		ng/L		109	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			25.1	28.0		ng/L		111	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			25.1	26.4		ng/L		105	70 - 130		
Perfluoroheptanoic acid (PFHpA)			25.1	24.6		ng/L		98	70 - 130		
Perfluorononanoic acid (PFNA)			25.1	25.8		ng/L		103	70 - 130		

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: LCS 380-227533/23-A
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227533

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTA)			25.1	24.1		ng/L		96	70 - 130		
Perfluorotridecanoic acid (PFTrDA)			25.1	26.1		ng/L		104	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			25.1	28.0		ng/L		112	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			25.1	26.2		ng/L		104	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			25.1	21.2		ng/L		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*95*		*70 - 130*
13C2 PFHxA	*94*		*70 - 130*
13C2 PFDA	*105*		*70 - 130*
13C3-GenX	*85*		*70 - 130*

Lab Sample ID: MRL 380-227533/22-A
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227533

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.01	2.10	J	ng/L		104	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.01	2.12	J	ng/L		106	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.01	2.34	J	ng/L		116	50 - 150		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			2.01	1.99	J	ng/L		99	50 - 150		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			2.01	2.17	J	ng/L		108	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.01	2.20	J	ng/L		109	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.01	2.24	J	ng/L		112	50 - 150		
Perfluorooctanoic acid (PFOA)			2.01	2.21	J	ng/L		110	50 - 150		
Perfluorodecanoic acid (PFDA)			2.01	2.17	J	ng/L		108	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.01	2.10	J	ng/L		105	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.01	2.00	J	ng/L		100	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.01	2.19	J	ng/L		109	50 - 150		
Perfluorononanoic acid (PFNA)			2.01	2.23	J	ng/L		111	50 - 150		
Perfluorotetradecanoic acid (PFTA)			2.01	1.93	J	ng/L		96	50 - 150		
Perfluorotridecanoic acid (PFTrDA)			2.01	2.17	J	ng/L		108	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.01	2.09	J	ng/L		104	50 - 150		

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: MRL 380-227533/22-A
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227533

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.95	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.08	J	ng/L		104	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*100*		*70 - 130*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*106*		*70 - 130*
13C3-GenX	*107*		*70 - 130*

Lab Sample ID: 380-214033-1 MS
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Moanalua Wells P1
Prep Type: Total/NA
Prep Batch: 227533

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		25.1	26.1		ng/L		104	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	30.5		ng/L		115	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	28.1		ng/L		112	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	28.1		ng/L		112	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.8		ng/L		111	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	29.1		ng/L		111	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	26.9		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	27.5		ng/L		107	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	29.0		ng/L		116	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	30.6		ng/L		116	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	28.9		ng/L		112	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	29.1		ng/L		113	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.8		ng/L		111	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	25.2		ng/L		101	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	27.8		ng/L		111	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	28.0		ng/L		112	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	27.8		ng/L		111	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	26.6		ng/L		106	70 - 130

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: 380-214033-1 MS
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Moanalua Wells P1
Prep Type: Total/NA
Prep Batch: 227533

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	113		70 - 130
13C2 PFHxA	115		70 - 130
13C2 PFDA	112		70 - 130
13C3-GenX	110		70 - 130

Lab Sample ID: 380-214033-1 MSD
Matrix: Water
Analysis Batch: 227746

Client Sample ID: Moanalua Wells P1
Prep Type: Total/NA
Prep Batch: 227533

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		25.1	25.2		ng/L		101	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.9		ng/L		104	70 - 130	9	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.8		ng/L		107	70 - 130	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	25.5		ng/L		102	70 - 130	10	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	25.5		ng/L		102	70 - 130	9	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	28.0		ng/L		107	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	26.6		ng/L		106	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	27.5		ng/L		106	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	28.0		ng/L		112	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	27.6		ng/L		104	70 - 130	10	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	27.0		ng/L		105	70 - 130	7	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	28.2		ng/L		110	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.0		ng/L		108	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	23.6		ng/L		94	70 - 130	7	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	25.8		ng/L		103	70 - 130	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	25.5		ng/L		102	70 - 130	9	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	24.7		ng/L		99	70 - 130	12	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	25.7		ng/L		103	70 - 130	3	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	107		70 - 130
13C2 PFHxA	116		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	104		70 - 130

LCMS

Prep Batch: 227533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214033-1	Moanalua Wells P1	Total/NA	Water	537.1 DW	
380-214033-2	FB: Moanalua Wells P1	Total/NA	Water	537.1 DW	
MBL 380-227533/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-227533/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-227533/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-214033-1 MS	Moanalua Wells P1	Total/NA	Water	537.1 DW	
380-214033-1 MSD	Moanalua Wells P1	Total/NA	Water	537.1 DW	

Analysis Batch: 227746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214033-1	Moanalua Wells P1	Total/NA	Water	EPA 537.1 V2	227533
380-214033-2	FB: Moanalua Wells P1	Total/NA	Water	EPA 537.1 V2	227533
MBL 380-227533/21-A	Method Blank	Total/NA	Water	EPA 537.1 V2	227533
LCS 380-227533/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	227533
MRL 380-227533/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	227533
380-214033-1 MS	Moanalua Wells P1	Total/NA	Water	EPA 537.1 V2	227533
380-214033-1 MSD	Moanalua Wells P1	Total/NA	Water	EPA 537.1 V2	227533

Prep Batch: 228574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214033-1	Moanalua Wells P1	Total/NA	Water	533	
MBL 380-228574/20-A	Method Blank	Total/NA	Water	533	
LCS 380-228574/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-228574/21-A	Lab Control Sample	Total/NA	Water	533	
380-213796-B-7-A MS	Matrix Spike	Total/NA	Water	533	
380-213796-B-7-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 228575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214033-2	FB: Moanalua Wells P1	Total/NA	Water	533	
MBL 380-228575/20-A	Method Blank	Total/NA	Water	533	
LCS 380-228575/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-228575/21-A	Lab Control Sample	Total/NA	Water	533	
380-214456-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-214456-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 228751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214033-1	Moanalua Wells P1	Total/NA	Water	533	228574
MBL 380-228574/20-A	Method Blank	Total/NA	Water	533	228574
LCS 380-228574/22-A	Lab Control Sample	Total/NA	Water	533	228574
MRL 380-228574/21-A	Lab Control Sample	Total/NA	Water	533	228574
380-213796-B-7-A MS	Matrix Spike	Total/NA	Water	533	228574
380-213796-B-7-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	228574

Analysis Batch: 228984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214033-2	FB: Moanalua Wells P1	Total/NA	Water	533	228575
MBL 380-228575/20-A	Method Blank	Total/NA	Water	533	228575
LCS 380-228575/22-A	Lab Control Sample	Total/NA	Water	533	228575
MRL 380-228575/21-A	Lab Control Sample	Total/NA	Water	533	228575

LCMS (Continued)

Analysis Batch: 228984 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214456-B-1-A MS	Matrix Spike	Total/NA	Water	533	228575
380-214456-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	228575

Lab Chronicle

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

Job ID: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Client Sample ID: Moanalua Wells P1

Lab Sample ID: 380-214033-1

Date Collected: 05/11/26 09:15

Matrix: Water

Date Received: 05/13/26 09:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			228574	XTD8	EA POM	05/21/26 06:02
Total/NA	Analysis	533		1	228751	Y5FM	EA POM	05/21/26 20:12
Total/NA	Prep	537.1 DW			227533	E9PK	EA POM	05/16/26 11:18
Total/NA	Analysis	EPA 537.1 V2		1	227746	M7ML	EA POM	05/18/26 10:05

Client Sample ID: FB: Moanalua Wells P1

Lab Sample ID: 380-214033-2

Date Collected: 05/11/26 09:15

Matrix: Water

Date Received: 05/13/26 09:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			228575	XTD8	EA POM	05/21/26 06:16
Total/NA	Analysis	533		1	228984	Y5FM	EA POM	05/22/26 19:40
Total/NA	Prep	537.1 DW			227533	E9PK	EA POM	05/16/26 11:18
Total/NA	Analysis	EPA 537.1 V2		1	227746	M7ML	EA POM	05/18/26 11:49

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: 380-214033-1
SDG: PFAS - Moanalua Wells 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 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

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

Job ID: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	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: 380-214033-1
SDG: PFAS - Moanalua Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-214033-1	Moanalua Wells P1	Water	05/11/26 09:15	05/13/26 09:28	Hawaii
380-214033-2	FB: Moanalua Wells P1	Water	05/11/26 09:15	05/13/26 09:28	Hawaii

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: Olat Hoppe	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): Standard			
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 SPECIAL	Project #: ~~38000079~~ 38001111			
Site: OH 5-21-26	SSOW#: OH 5-21-26			

Analysis Requested: Field Filtered Sample (Yes or No); Perform MS/MSD (Yes or No); 537.1_DW_PREC - 537.1 Full List; 533 - All Analytes; Total Number of containers

380-214033 COC

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, Other:
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), NH4 Acetate

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	Perform MS/MSD	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	Y	Z	X	
Moanalua Wells P 1	11-May-2026	0915	G	Water			3	3		
				OH 5-14-26						
~~Matrix Spike~~							1	1		
~~Matrix Spike Dup~~ OH 5-14-26							1	1		
Moanalua Wells P 1	11-May-2026	0915		Water			1	1		

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

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed Ex 5717 1402 6046

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[redacted]	5-12-26 1100	HBWS	Maria Marklunatin	5/13/26 926	ELAP
Relinquished by:	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: (6)(A) 2.6+0=2.6 761 FedEx

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-214033-1
SDG Number: PFAS - Moanalua Wells P1

Login Number: 214033
List Number: 1
Creator: Del Rosario, Michael

List Source: Eurofins Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
ClO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	