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 8/4/2026 4:47:26 PM

JOB DESCRIPTION

RED-HILL
PFAS: Aiea Gulch Wells Pump 2
RUSH Weekly Red Hill

JOB NUMBER

380-227792-1

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

Generated
8/4/2026 4:47:26 PM

Authorized for release by
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1145

Table of Contents

Definitions/Glossary

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

Job ID: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Qualifiers

LCMS

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

Glossary

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

Job Narrative
380-227792-1

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 7/29/2026 10:40 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 2.2°C.

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

Detection Summary

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

Job ID: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-227792-1

No Detections.

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

Lab Sample ID: 380-227792-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Lab Sample ID: 380-227792-1

Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

Matrix: Drinking 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		07/30/26 07:53	07/30/26 21:00	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/30/26 07:53	07/30/26 21:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C6 PFDA	*103*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C5 PFHxA	*104*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C4 PFHpA	*109*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C8 PFOA	*106*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C9 PFNA	*109*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C7 PFUnA	*115*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C2 PFDoA	*113*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C4 PFBA	*108*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C5 PFPeA	*94*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C3 PFBS	*102*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C3 PFHxS	*111*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*

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

Lab Sample ID: 380-227792-1

Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

Matrix: Drinking Water

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*117*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C2-4:2-FTS	*105*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C2-6:2-FTS	*102*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*1*
13C2-8:2-FTS	*108*		*50 - 200*	*07/30/26 07:53*	*07/30/26 21:00*	*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		07/30/26 16:00	07/31/26 11:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/30/26 16:00	07/31/26 11:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*116*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:34*	*1*
13C2 PFHxA	*115*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:34*	*1*
13C2 PFDA	*111*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:34*	*1*
13C3-GenX	*113*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:34*	*1*

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

Lab Sample ID: 380-227792-2

Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

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		07/30/26 07:48	07/30/26 20:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/30/26 07:48	07/30/26 20:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/30/26 07:48	07/30/26 20:51	1

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

Lab Sample ID: 380-227792-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/30/26 07:48	07/30/26 20:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C6 PFDA	*102*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C5 PFHxA	*104*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C4 PFHpA	*101*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C8 PFOA	*109*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C9 PFNA	*109*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C7 PFUnA	*111*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C2 PFDoA	*108*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C4 PFBA	*104*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C5 PFPeA	*103*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C3 PFBS	*107*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C3 PFHxS	*107*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C8 PFOS	*111*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C2-4:2-FTS	*101*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C2-6:2-FTS	*97*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*
13C2-8:2-FTS	*103*		*50 - 200*	*07/30/26 07:48*	*07/30/26 20:51*	*1*

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

Job ID: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

Lab Sample ID: 380-227792-2
Matrix: Water

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		07/30/26 16:00	07/31/26 12:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/30/26 16:00	07/31/26 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*108*		*70 - 130*	*07/30/26 16:00*	*07/31/26 12:02*	*1*
13C2 PFHxA	*117*		*70 - 130*	*07/30/26 16:00*	*07/31/26 12:02*	*1*
13C2 PFDA	*111*		*70 - 130*	*07/30/26 16:00*	*07/31/26 12:02*	*1*
13C3-GenX	*106*		*70 - 130*	*07/30/26 16:00*	*07/31/26 12:02*	*1*

Action Limit Summary

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

Job ID: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-227792-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL 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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

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

Lab Sample ID: 380-227792-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL 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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Surrogate Summary

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

Job ID: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

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)
380-227792-1	AIEA GULCH WELLS PUMP 2 (	116	115	111	113
380-227792-1 MS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	114	116	110	113
380-227792-1 MSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	114	120	116	117

Surrogate Legend

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

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

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)
380-227792-2	FB: AIEA GULCH WELLS PUMI	108	117	111	106
LCS 380-243515/22-A	Lab Control Sample	116	114	114	108
MBL 380-243515/20-A	Method Blank	113	117	117	110
MRL 380-243515/21-A	Lab Control Sample	115	118	118	108

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: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-227792-1	AIEA GULCH WELLS PUMP 2 (	98	103	104	109	106	109	115	113

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-227792-1	AIEA GULCH WELLS PUMP 2 (	108	94	102	111	117	105	102	108

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)
380-227792-2	FB: AIEA GULCH WELLS PUMI	96	102	104	101	109	109	111	108
380-227793-E-1-A MS	Matrix Spike	109	100	100	107	109	110	119	119
380-227793-F-1-A MSD	Matrix Spike Duplicate	100	107	100	109	109	112	120	119
380-227850-E-2-A MS	Matrix Spike	106	102	111	108	108	114	113	112
380-227850-F-2-A MSD	Matrix Spike Duplicate	105	101	108	105	107	110	110	110
LCS 380-243404/22-A	Lab Control Sample	101	99	104	101	104	104	107	111
LCS 380-243406/22-A	Lab Control Sample	96	104	106	102	107	111	122	113
MBL 380-243404/20-A	Method Blank	85	95	94	97	100	102	104	107
MBL 380-243406/20-A	Method Blank	95	98	104	105	107	110	111	108
MRL 380-243404/21-A	Lab Control Sample	85	92	92	94	97	102	102	100
MRL 380-243406/21-A	Lab Control Sample	88	94	98	98	100	100	112	107

		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)
380-227792-2	FB: AIEA GULCH WELLS PUMI	104	103	107	107	111	101	97	103
380-227793-E-1-A MS	Matrix Spike	108	102	106	107	112	112	110	113
380-227793-F-1-A MSD	Matrix Spike Duplicate	110	106	107	110	111	105	112	111
380-227850-E-2-A MS	Matrix Spike	108	111	107	107	111	109	99	100
380-227850-F-2-A MSD	Matrix Spike Duplicate	107	111	102	108	107	102	98	104
LCS 380-243404/22-A	Lab Control Sample	101	101	110	110	108	108	102	102

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-227792-1
Project/Site: RED-HILL
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
LCS 380-243406/22-A	Lab Control Sample	99	97	107	108	113	104	106	107
MBL 380-243404/20-A	Method Blank	104	101	102	109	110	109	105	106
MBL 380-243406/20-A	Method Blank	95	88	108	111	116	113	105	104
MRL 380-243404/21-A	Lab Control Sample	92	94	107	110	116	107	104	104
MRL 380-243406/21-A	Lab Control Sample	94	88	104	103	110	112	105	112

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 380-243404/20-A
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243404

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.37		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0		ng/L		07/30/26 07:48	07/30/26 19:53	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C6 PFDA	*95*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C5 PFHxA	*94*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C4 PFHpA	*97*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C8 PFOA	*100*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C9 PFNA	*102*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C7 PFUnA	*104*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C2 PFDoA	*107*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C4 PFBA	*104*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C5 PFPeA	*101*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C3 PFBS	*102*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*
13C3 PFHxS	*109*		*50 - 200*	*07/30/26 07:48*	*07/30/26 19:53*	*1*

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

Lab Sample ID: MBL 380-243404/20-A
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243404

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	110		50 - 200	07/30/26 07:48	07/30/26 19:53	1
13C2-4:2-FTS	109		50 - 200	07/30/26 07:48	07/30/26 19:53	1
13C2-6:2-FTS	105		50 - 200	07/30/26 07:48	07/30/26 19:53	1
13C2-8:2-FTS	106		50 - 200	07/30/26 07:48	07/30/26 19:53	1

Lab Sample ID: LCS 380-243404/22-A
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243404

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	118	101		ng/L		86	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	118	102		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	118	102		ng/L		86	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	118	106		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	118	104		ng/L		88	70 - 130
Perfluorodecanoic acid (PFDA)	118	114		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	118	102		ng/L		87	70 - 130
Perfluoroheptanoic acid (PFHpA)	118	105		ng/L		89	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	118	103		ng/L		88	70 - 130
Perfluorohexanoic acid (PFHxA)	118	104		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	118	103		ng/L		87	70 - 130
Perfluorooctanesulfonic acid (PFOS)	118	103		ng/L		87	70 - 130
Perfluorooctanoic acid (PFOA)	118	104		ng/L		88	70 - 130
Perfluoroundecanoic acid (PFUnA)	118	106		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	118	107		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	118	103		ng/L		87	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	118	105		ng/L		88	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	118	108		ng/L		91	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	118	86.8		ng/L		73	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	118	103		ng/L		87	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	118	104		ng/L		88	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	118	106		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	118	109		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	118	109		ng/L		92	70 - 130

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

Lab Sample ID: LCS 380-243404/22-A
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243404

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			118	103		ng/L		87	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*101*		*50 - 200*
13C6 PFDA	*99*		*50 - 200*
13C5 PFHxA	*104*		*50 - 200*
13C4 PFHpA	*101*		*50 - 200*
13C8 PFOA	*104*		*50 - 200*
13C9 PFNA	*104*		*50 - 200*
13C7 PFUnA	*107*		*50 - 200*
13C2 PFDoA	*111*		*50 - 200*
13C4 PFBA	*101*		*50 - 200*
13C5 PFPeA	*101*		*50 - 200*
13C3 PFBS	*110*		*50 - 200*
13C3 PFHxS	*110*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*108*		*50 - 200*
13C2-6:2-FTS	*102*		*50 - 200*
13C2-8:2-FTS	*102*		*50 - 200*

Lab Sample ID: MRL 380-243404/21-A
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243404

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			1.97	1.85	J	ng/L		94	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			1.97	1.75	J	ng/L		89	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.97	1.76	J	ng/L		89	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			1.97	1.93	J	ng/L		98	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			1.97	1.87	J	ng/L		95	50 - 150		
Perfluorodecanoic acid (PFDA)			1.97	2.07	J	ng/L		105	50 - 150		
Perfluorododecanoic acid (PFDoA)			1.97	1.91	J	ng/L		97	50 - 150		
Perfluoroheptanoic acid (PFHpA)			1.97	1.81	J	ng/L		92	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			1.97	1.82	J	ng/L		92	50 - 150		
Perfluorohexanoic acid (PFHxA)			1.97	1.98	J	ng/L		101	50 - 150		
Perfluorononanoic acid (PFNA)			1.97	1.80	J	ng/L		91	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			1.97	1.79	J	ng/L		91	50 - 150		
Perfluorooctanoic acid (PFOA)			1.97	1.83	J	ng/L		93	50 - 150		
Perfluoroundecanoic acid (PFUnA)			1.97	1.81	J	ng/L		92	50 - 150		
Perfluorobutanoic acid (PFBA)			1.97	1.96	J	ng/L		99	50 - 150		

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

Lab Sample ID: MRL 380-243404/21-A
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243404

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	1.71	J	ng/L		87	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	1.91	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	1.98	J	ng/L		100	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	1.58	J	ng/L		80	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.85	J	ng/L		94	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.82	J	ng/L		93	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.83	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	1.94	J	ng/L		98	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.73	J	ng/L		88	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.75	J	ng/L		89	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*50 - 200*
13C6 PFDA	*92*		*50 - 200*
13C5 PFHxA	*92*		*50 - 200*
13C4 PFHpA	*94*		*50 - 200*
13C8 PFOA	*97*		*50 - 200*
13C9 PFNA	*102*		*50 - 200*
13C7 PFUnA	*102*		*50 - 200*
13C2 PFDoA	*100*		*50 - 200*
13C4 PFBA	*92*		*50 - 200*
13C5 PFPeA	*94*		*50 - 200*
13C3 PFBS	*107*		*50 - 200*
13C3 PFHxS	*110*		*50 - 200*
13C8 PFOS	*116*		*50 - 200*
13C2-4:2-FTS	*107*		*50 - 200*
13C2-6:2-FTS	*104*		*50 - 200*
13C2-8:2-FTS	*104*		*50 - 200*

Lab Sample ID: 380-227850-E-2-A MS
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 243404

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		119	99.8		ng/L		84	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		119	99.7		ng/L		84	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		119	106		ng/L		90	70 - 130

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

Lab Sample ID: 380-227850-E-2-A MS
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 243404

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		119	112		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		119	110		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		119	118		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		119	106		ng/L		89	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		119	107		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		119	109		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		119	109		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		119	104		ng/L		87	70 - 130
Perfluorooctanesulfonic acid (PFOS)	6.9		119	110		ng/L		87	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		119	113		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		119	105		ng/L		89	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		119	109		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		119	105		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		119	106		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		119	115		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		119	92.2		ng/L		78	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		119	108		ng/L		91	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		119	109		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		119	109		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		119	115		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		119	103		ng/L		87	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		119	107		ng/L		90	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*106*		*50 - 200*
13C6 PFDA	*102*		*50 - 200*
13C5 PFHxA	*111*		*50 - 200*
13C4 PFHpA	*108*		*50 - 200*
13C8 PFOA	*108*		*50 - 200*
13C9 PFNA	*114*		*50 - 200*
13C7 PFUnA	*113*		*50 - 200*
13C2 PFDoA	*112*		*50 - 200*
13C4 PFBA	*108*		*50 - 200*
13C5 PFPeA	*111*		*50 - 200*
13C3 PFBS	*107*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*111*		*50 - 200*

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

Lab Sample ID: 380-227850-E-2-A MS
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 243404

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	99		50 - 200
13C2-8:2-FTS	100		50 - 200

Lab Sample ID: 380-227850-F-2-A MSD
Matrix: Water
Analysis Batch: 243521

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 243404

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		118	104		ng/L		88	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	103		ng/L		87	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	110		ng/L		93	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	113		ng/L		95	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	114		ng/L		94	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		118	118		ng/L		100	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		118	107		ng/L		90	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	107		ng/L		90	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	107		ng/L		89	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		118	108		ng/L		90	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		118	106		ng/L		90	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	6.9		118	112		ng/L		89	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		118	112		ng/L		93	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	105		ng/L		89	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		118	111		ng/L		92	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	103		ng/L		87	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	113		ng/L		95	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	108		ng/L		92	70 - 130	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	90.7		ng/L		77	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		118	107		ng/L		90	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	110		ng/L		93	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	110		ng/L		93	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		118	113		ng/L		95	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	109		ng/L		92	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	106		ng/L		89	70 - 130	1	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	108		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: MBL 380-243406/20-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243406

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1

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

Lab Sample ID: MBL 380-243406/20-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243406

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.37		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0		ng/L		07/30/26 07:53	07/30/26 17:20	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C6 PFDA	*98*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C5 PFHxA	*104*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C4 PFHpA	*105*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C8 PFOA	*107*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C9 PFNA	*110*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C7 PFUnA	*111*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C2 PFDoA	*108*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C4 PFBA	*95*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C5 PFPeA	*88*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C3 PFBS	*108*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C3 PFHxS	*111*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C8 PFOS	*116*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C2-4:2-FTS	*113*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C2-6:2-FTS	*105*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*
13C2-8:2-FTS	*104*		*50 - 200*	*07/30/26 07:53*	*07/30/26 17:20*	*1*

Lab Sample ID: LCS 380-243406/22-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243406

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			59.1	52.2		ng/L		88	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			59.1	51.0		ng/L		86	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			59.1	58.3		ng/L		99	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			59.1	56.8		ng/L		96	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			59.1	55.5		ng/L		94	70 - 130		
Perfluorodecanoic acid (PFDA)			59.1	60.9		ng/L		103	70 - 130		
Perfluorododecanoic acid (PFDoA)			59.1	58.3		ng/L		99	70 - 130		
Perfluoroheptanoic acid (PFHpA)			59.1	60.3		ng/L		102	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			59.1	55.5		ng/L		94	70 - 130		
Perfluorohexanoic acid (PFHxA)			59.1	55.6		ng/L		94	70 - 130		
Perfluorononanoic acid (PFNA)			59.1	49.5		ng/L		84	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			59.1	52.7		ng/L		89	70 - 130		
Perfluorooctanoic acid (PFOA)			59.1	54.8		ng/L		93	70 - 130		

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

Lab Sample ID: LCS 380-243406/22-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	59.1	54.0		ng/L		91	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	58.3		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	56.8		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	57.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	58.3		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	45.7		ng/L		77	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	59.1	52.0		ng/L		88	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	55.0		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	53.6		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	57.6		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	51.8		ng/L		88	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	59.1	55.5		ng/L		94	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*96*		*50 - 200*
13C6 PFDA	*104*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*102*		*50 - 200*
13C8 PFOA	*107*		*50 - 200*
13C9 PFNA	*111*		*50 - 200*
13C7 PFUnA	*122*		*50 - 200*
13C2 PFDoA	*113*		*50 - 200*
13C4 PFBA	*99*		*50 - 200*
13C5 PFPeA	*97*		*50 - 200*
13C3 PFBS	*107*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*104*		*50 - 200*
13C2-6:2-FTS	*106*		*50 - 200*
13C2-8:2-FTS	*107*		*50 - 200*

Lab Sample ID: MRL 380-243406/21-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243406

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.95	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	1.85	J	ng/L		94	50 - 150

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

Lab Sample ID: MRL 380-243406/21-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243406

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.97	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.95	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.99	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.25	J	ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.12	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.04	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.37	J	ng/L		120	50 - 150
Perfluorononanoic acid (PFNA)	1.97	1.80	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	1.91	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.07	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.27	J	ng/L		115	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	1.97	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.04	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.22	J	ng/L		113	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	1.59	J	ng/L		81	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.96	J	ng/L		99	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.97	J	ng/L		100	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.83	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.21	J	ng/L		112	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.85	J	ng/L		94	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.91	J	ng/L		97	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*88*		*50 - 200*
13C6 PFDA	*94*		*50 - 200*
13C5 PFHxA	*98*		*50 - 200*
13C4 PFHpA	*98*		*50 - 200*
13C8 PFOA	*100*		*50 - 200*
13C9 PFNA	*100*		*50 - 200*
13C7 PFUnA	*112*		*50 - 200*
13C2 PFDoA	*107*		*50 - 200*
13C4 PFBA	*94*		*50 - 200*
13C5 PFPeA	*88*		*50 - 200*
13C3 PFBS	*104*		*50 - 200*
13C3 PFHxS	*103*		*50 - 200*

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

Lab Sample ID: MRL 380-243406/21-A
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243406

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C8 PFOS	*110*		*50 - 200*
13C2-4:2-FTS	*112*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*
13C2-8:2-FTS	*112*		*50 - 200*

Lab Sample ID: 380-227793-E-1-A MS
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 243406

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		59.3	52.0		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.3	52.8		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.3	56.8		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.3	57.2		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	3.4		59.3	62.2		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		59.3	61.9		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		59.3	55.6		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.3		59.3	61.0		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.9		59.3	58.6		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	4.5		59.3	62.9		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		59.3	50.0		ng/L		84	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.0		59.3	57.3		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	4.5		59.3	61.9		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		59.3	60.0		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	2.0		59.3	57.4		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.3	57.5		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.3	60.1		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.3	59.6		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.3	47.3		ng/L		80	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.3	56.4		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.3	59.1		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.3	58.5		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	4.6		59.3	61.7		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.3	53.5		ng/L		90	70 - 130

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

Lab Sample ID: 380-227793-E-1-A MS
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 243406

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.3	57.0		ng/L		95	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*109*		*50 - 200*
13C6 PFDA	*100*		*50 - 200*
13C5 PFHxA	*100*		*50 - 200*
13C4 PFHpA	*107*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*110*		*50 - 200*
13C7 PFUnA	*119*		*50 - 200*
13C2 PFDoA	*119*		*50 - 200*
13C4 PFBA	*108*		*50 - 200*
13C5 PFPeA	*102*		*50 - 200*
13C3 PFBS	*106*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*112*		*50 - 200*
13C2-4:2-FTS	*112*		*50 - 200*
13C2-6:2-FTS	*110*		*50 - 200*
13C2-8:2-FTS	*113*		*50 - 200*

Lab Sample ID: 380-227793-F-1-A MSD
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 243406

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		59.2	51.4		ng/L		87	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.2	51.1		ng/L		86	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.2	55.9		ng/L		95	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.2	58.7		ng/L		99	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	3.4		59.2	59.8		ng/L		95	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		59.2	59.8		ng/L		101	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		59.2	55.9		ng/L		95	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	2.3		59.2	57.6		ng/L		94	70 - 130	6	30
Perfluorohexanesulfonic acid (PFHxS)	3.9		59.2	57.2		ng/L		90	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	4.5		59.2	61.2		ng/L		96	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		59.2	49.3		ng/L		83	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	5.0		59.2	56.9		ng/L		88	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	4.5		59.2	59.7		ng/L		93	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.2	55.7		ng/L		94	70 - 130	7	30
Perfluorobutanoic acid (PFBA)	2.0		59.2	56.4		ng/L		92	70 - 130	2	30

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

Lab Sample ID: 380-227793-F-1-A MSD
Matrix: Water
Analysis Batch: 243558

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 243406

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		59.2	57.6		ng/L		97	70 - 130	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.2	55.9		ng/L		95	70 - 130	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.2	55.8		ng/L		94	70 - 130	7	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.2	51.6		ng/L		87	70 - 130	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.2	59.0		ng/L		100	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.2	59.4		ng/L		100	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.2	56.9		ng/L		96	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	4.6		59.2	59.9		ng/L		93	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.2	54.1		ng/L		91	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.2	55.5		ng/L		93	70 - 130	3	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*100*		*50 - 200*
13C6 PFDA	*107*		*50 - 200*
13C5 PFHxA	*100*		*50 - 200*
13C4 PFHpA	*109*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*112*		*50 - 200*
13C7 PFUnA	*120*		*50 - 200*
13C2 PFDoA	*119*		*50 - 200*
13C4 PFBA	*110*		*50 - 200*
13C5 PFPeA	*106*		*50 - 200*
13C3 PFBS	*107*		*50 - 200*
13C3 PFHxS	*110*		*50 - 200*
13C8 PFOS	*111*		*50 - 200*
13C2-4:2-FTS	*105*		*50 - 200*
13C2-6:2-FTS	*112*		*50 - 200*
13C2-8:2-FTS	*111*		*50 - 200*

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

Lab Sample ID: MBL 380-243515/20-A
Matrix: Water
Analysis Batch: 243645

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243515

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1

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

Lab Sample ID: MBL 380-243515/20-A
Matrix: Water
Analysis Batch: 243645

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243515

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		07/30/26 16:00	07/31/26 11:04	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*113*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:04*	*1*
13C2 PFHxA	*117*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:04*	*1*
13C2 PFDA	*117*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:04*	*1*
13C3-GenX	*110*		*70 - 130*	*07/30/26 16:00*	*07/31/26 11:04*	*1*

Lab Sample ID: LCS 380-243515/22-A
Matrix: Water
Analysis Batch: 243645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243515

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			49.3	49.3		ng/L		100	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			49.3	54.8		ng/L		111	70 - 130		
Perfluoroundecanoic acid (PFUnA)			49.3	51.3		ng/L		104	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			49.3	52.4		ng/L		106	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			49.3	51.3		ng/L		104	70 - 130		
Perfluorohexanoic acid (PFHxA)			49.3	50.6		ng/L		103	70 - 130		
Perfluorododecanoic acid (PFDoA)			49.3	51.2		ng/L		104	70 - 130		
Perfluorooctanoic acid (PFOA)			49.3	51.0		ng/L		103	70 - 130		
Perfluorodecanoic acid (PFDA)			49.3	50.9		ng/L		103	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			49.3	54.8		ng/L		111	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			49.3	56.0		ng/L		114	70 - 130		
Perfluoroheptanoic acid (PFHpA)			49.3	51.5		ng/L		105	70 - 130		
Perfluorononanoic acid (PFNA)			49.3	52.2		ng/L		106	70 - 130		

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

Lab Sample ID: LCS 380-243515/22-A
Matrix: Water
Analysis Batch: 243645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243515

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTA)			49.3	50.7		ng/L		103	70 - 130		
Perfluorotridecanoic acid (PFTrDA)			49.3	52.5		ng/L		106	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			49.3	53.3		ng/L		108	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			49.3	53.3		ng/L		108	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			49.3	51.1		ng/L		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*116*		*70 - 130*
13C2 PFHxA	*114*		*70 - 130*
13C2 PFDA	*114*		*70 - 130*
13C3-GenX	*108*		*70 - 130*

Lab Sample ID: MRL 380-243515/21-A
Matrix: Water
Analysis Batch: 243645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243515

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			1.96	1.91	J	ng/L		97	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			1.96	2.00	J	ng/L		102	50 - 150		
Perfluoroundecanoic acid (PFUnA)			1.96	2.06	J	ng/L		105	50 - 150		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			1.96	1.92	J	ng/L		98	50 - 150		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			1.96	1.90	J	ng/L		97	50 - 150		
Perfluorohexanoic acid (PFHxA)			1.96	2.03	J	ng/L		103	50 - 150		
Perfluorododecanoic acid (PFDoA)			1.96	1.99	J	ng/L		101	50 - 150		
Perfluorooctanoic acid (PFOA)			1.96	2.07	J	ng/L		105	50 - 150		
Perfluorodecanoic acid (PFDA)			1.96	2.00	J	ng/L		102	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			1.96	2.09	J	ng/L		106	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			1.96	1.94	J	ng/L		99	50 - 150		
Perfluoroheptanoic acid (PFHpA)			1.96	2.04	J	ng/L		104	50 - 150		
Perfluorononanoic acid (PFNA)			1.96	2.12	J	ng/L		108	50 - 150		
Perfluorotetradecanoic acid (PFTA)			1.96	1.99	J	ng/L		101	50 - 150		
Perfluorotridecanoic acid (PFTrDA)			1.96	2.06	J	ng/L		105	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			1.96	1.96	J	ng/L		100	50 - 150		

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

Lab Sample ID: MRL 380-243515/21-A
Matrix: Water
Analysis Batch: 243645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 243515

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			1.96	1.99	J	ng/L		101	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.96	1.90	J	ng/L		97	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*115*		*70 - 130*
13C2 PFHxA	*118*		*70 - 130*
13C2 PFDA	*118*		*70 - 130*
13C3-GenX	*108*		*70 - 130*

Lab Sample ID: 380-227792-1 MS
Matrix: Drinking Water
Analysis Batch: 243645

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 243515

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		49.1	52.3		ng/L		106	70 - 130		
Perfluorooctanesulfonic acid (PFOS)	<2.0		49.1	53.3		ng/L		108	70 - 130		
Perfluoroundecanoic acid (PFUnA)	<2.0		49.1	51.2		ng/L		104	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.1	53.1		ng/L		108	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		49.1	55.5		ng/L		113	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		49.1	54.4		ng/L		109	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		49.1	50.7		ng/L		103	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		49.1	53.4		ng/L		109	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		49.1	52.5		ng/L		107	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		49.1	54.4		ng/L		110	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		49.1	57.4		ng/L		117	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		49.1	53.7		ng/L		109	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		49.1	53.7		ng/L		109	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		49.1	49.6		ng/L		101	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		49.1	52.9		ng/L		108	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.1	53.1		ng/L		108	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.1	52.7		ng/L		107	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.1	51.4		ng/L		105	70 - 130		

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

Lab Sample ID: 380-227792-1 MS
Matrix: Drinking Water
Analysis Batch: 243645

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 243515

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	114		70 - 130
13C2 PFHxA	116		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	113		70 - 130

Lab Sample ID: 380-227792-1 MSD
Matrix: Drinking Water
Analysis Batch: 243645

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Prep Type: Total/NA
Prep Batch: 243515

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		49.2	53.8		ng/L		109	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		49.2	53.3		ng/L		108	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		49.2	53.4		ng/L		108	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.2	50.6		ng/L		103	70 - 130	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		49.2	51.4		ng/L		104	70 - 130	8	30
Perfluorohexanoic acid (PFHxA)	<2.0		49.2	57.6		ng/L		115	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		49.2	51.4		ng/L		105	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		49.2	54.0		ng/L		110	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		49.2	53.7		ng/L		109	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		49.2	55.0		ng/L		111	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		49.2	56.5		ng/L		115	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		49.2	54.2		ng/L		109	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		49.2	55.1		ng/L		112	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		49.2	50.9		ng/L		103	70 - 130	3	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		49.2	55.0		ng/L		112	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.2	53.4		ng/L		108	70 - 130	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.2	53.2		ng/L		108	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.2	52.6		ng/L		107	70 - 130	2	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	114		70 - 130
13C2 PFHxA	120		70 - 130
13C2 PFDA	116		70 - 130
13C3-GenX	117		70 - 130

LCMS

Prep Batch: 243404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	
MBL 380-243404/20-A	Method Blank	Total/NA	Water	533	
LCS 380-243404/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-243404/21-A	Lab Control Sample	Total/NA	Water	533	
380-227850-E-2-A MS	Matrix Spike	Total/NA	Water	533	
380-227850-F-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 243406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
MBL 380-243406/20-A	Method Blank	Total/NA	Water	533	
LCS 380-243406/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-243406/21-A	Lab Control Sample	Total/NA	Water	533	
380-227793-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-227793-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 243515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-227792-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	537.1 DW	
MBL 380-243515/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-243515/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-243515/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-227792-1 MS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-227792-1 MSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 243521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	243404
MBL 380-243404/20-A	Method Blank	Total/NA	Water	533	243404
LCS 380-243404/22-A	Lab Control Sample	Total/NA	Water	533	243404
MRL 380-243404/21-A	Lab Control Sample	Total/NA	Water	533	243404
380-227850-E-2-A MS	Matrix Spike	Total/NA	Water	533	243404
380-227850-F-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	243404

Analysis Batch: 243558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	243406
MBL 380-243406/20-A	Method Blank	Total/NA	Water	533	243406
LCS 380-243406/22-A	Lab Control Sample	Total/NA	Water	533	243406
MRL 380-243406/21-A	Lab Control Sample	Total/NA	Water	533	243406
380-227793-E-1-A MS	Matrix Spike	Total/NA	Water	533	243406
380-227793-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	243406

Analysis Batch: 243645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA 537.1 V2	243515
380-227792-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	EPA 537.1 V2	243515
MBL 380-243515/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	243515
LCS 380-243515/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	243515
MRL 380-243515/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	243515

LCMS (Continued)

Analysis Batch: 243645 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227792-1 MS	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA 537.1 V2	243515
380-227792-1 MSD	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA 537.1 V2	243515

Lab Chronicle

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

Job ID: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-227792-1

Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			243406	XTD8	EA POM	07/30/26 07:53
Total/NA	Analysis	533		1	243558	SZ9R	EA POM	07/30/26 21:00
Total/NA	Prep	537.1 DW			243515	E2HD	EA POM	07/30/26 16:00
Total/NA	Analysis	EPA 537.1 V2		1	243645	Y5FM	EA POM	07/31/26 11:34

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

Lab Sample ID: 380-227792-2

Date Collected: 07/27/26 11:33
Date Received: 07/29/26 10:40

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			243404	XTD8	EA POM	07/30/26 07:48
Total/NA	Analysis	533		1	243521	Y5FM	EA POM	07/30/26 20:51
Total/NA	Prep	537.1 DW			243515	E2HD	EA POM	07/30/26 16:00
Total/NA	Analysis	EPA 537.1 V2		1	243645	Y5FM	EA POM	07/31/26 12:02

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: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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: 380-227792-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-227792-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	07/27/26 11:33	07/29/26 10:40	Hawaii
380-227792-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	07/27/26 11:33	07/29/26 10:40	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: 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)	8015CONTRAC - 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
Aiea Gulch Wells Pump 2 (331 207 TP072)	27 Jul 2026	1133	G	Water							3	3		Chlorinated
FB Aiea Gulch Wells Pump 2 (331 207 TP072)	27 Jul 2026	1133									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:

380-227792 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: [redacted] Date: 28 JUL 2026 Time: 1400 Company: HBWS

Method of Shipment: FedEx 8750 0967 3959

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	28 JUL 2026 1400	HBWS	Mark Uratsu	7/29/26 1040	EZAP
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: (631A) 2.2+0.0 7.2 401 f10267

Ver 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-227792-1
SDG Number: PFAS: Aiea Gulch Wells Pump 2

Login Number: 227792
List Number: 1
Creator: Ngo, Theodore

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").	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	