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 3/11/2026 5:12:32 PM

JOB DESCRIPTION

RED-HILL
PFAS: Moanalua Wells
RUSH Weekly Red Hill

JOB NUMBER

380-200003-1

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
3/11/2026 5:12:32 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: 380-200003-1
SDG: PFAS: Moanalua Wells

Qualifiers

LCMS

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

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
380-200003-1

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 2/25/2026 9:40 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 1.7°C.

PFAS
Method EPA 537.1 V2: The laboratory control sample (LCS) for preparation batch 380-209297 and analytical batch 380-209575 recovered outside control limits for the following analytes: Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX) and Perfluorobutanesulfonic acid (PFBS).These analytes were biased low in the LCS. The results for the associated samples, FRB: MOANALUA WELLS (380-200003-2) , are not acceptable per method. Insufficient volume for re-extraction. Due to this QC issue the Field Blank was excluded. Analysis of the Field blank is required only if a field sample contains a method analyte or analytes at, or above, the MRL. Sample results showed ND thus valid for reporting. (XWB4)

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

Detection Summary

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-200003-1

No Detections.

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-200003-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

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

Date Collected: 02/23/26 10:14
Date Received: 02/25/26 09:40

Lab Sample ID: 380-200003-1

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		02/26/26 17:40	02/27/26 12:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*113*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C6 PFDA	*107*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C5 PFHxA	*116*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C4 PFHpA	*113*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C8 PFOA	*114*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C9 PFNA	*115*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C7 PFUnA	*110*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C2 PFDoA	*111*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C4 PFBA	*121*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C5 PFPeA	*117*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C3 PFBS	*116*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C3 PFHxS	*120*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C8 PFOS	*122*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*

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

Lab Sample ID: 380-200003-1

Date Collected: 02/23/26 10:14

Matrix: Drinking Water

Date Received: 02/25/26 09:40

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-4:2-FTS	*131*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C2-6:2-FTS	*116*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*1*
13C2-8:2-FTS	*119*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:11*	*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		03/04/26 10:00	03/05/26 09:18	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		03/04/26 10:00	03/05/26 09:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*101*		*70 - 130*	*03/04/26 10:00*	*03/05/26 09:18*	*1*
13C2 PFHxA	*122*		*70 - 130*	*03/04/26 10:00*	*03/05/26 09:18*	*1*
13C2 PFDA	*121*		*70 - 130*	*03/04/26 10:00*	*03/05/26 09:18*	*1*
13C3-GenX	*125*		*70 - 130*	*03/04/26 10:00*	*03/05/26 09:18*	*1*

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

Lab Sample ID: 380-200003-2

Date Collected: 02/23/26 10:14

Matrix: Water

Date Received: 02/25/26 09:40

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		02/26/26 17:40	02/27/26 12:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

Client Sample ID: FB:MOANALUA WELLS (331-223-TP202)
Date Collected: 02/23/26 10:14
Date Received: 02/25/26 09:40

Lab Sample ID: 380-200003-2
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		02/26/26 17:40	02/27/26 12:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		02/26/26 17:40	02/27/26 12:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*100*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C6 PFDA	*96*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C5 PFHxA	*109*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C4 PFHpA	*105*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C8 PFOA	*109*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C9 PFNA	*104*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C7 PFUnA	*102*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C2 PFDoA	*102*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C4 PFBA	*111*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C5 PFPeA	*110*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C3 PFBS	*110*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C3 PFHxS	*111*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C8 PFOS	*111*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C2-4:2-FTS	*116*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C2-6:2-FTS	*111*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*
13C2-8:2-FTS	*107*		*50 - 200*	*02/26/26 17:40*	*02/27/26 12:21*	*1*

Action Limit Summary

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-200003-1

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:MOANALUA WELLS (331-223-TP202) — Lab Sample ID: 380-200003-2

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

Surrogate Summary

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

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)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-200003-1	MOANALUA WELLS (331-223-T	101	122	121	125

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)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-200546-B-1-A MS	Matrix Spike	110	135 S1+	137 S1+	128
380-200546-C-1-A MSD	Matrix Spike Duplicate	116	119	121	126
LCS 380-210495/21-A	Lab Control Sample	123	127	129	124
MBL 380-210495/19-A	Method Blank	113	119	117	111
MRL 380-210495/20-A	Lab Control Sample	102	127	125	115

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: 380-200003-1
SDG: PFAS: Moanalua Wells

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-200003-1	MOANALUA WELLS (331-223-T	113	107	116	113	114	115	110	111

		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)
380-200003-1	MOANALUA WELLS (331-223-T	121	117	116	120	122	131	116	119

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)
380-199980-B-2-A MSD	Matrix Spike Duplicate	102	84	99	102	99	93	82	87
380-199980-C-2-A MS	Matrix Spike	111	105	110	110	108	113	107	114
380-200003-2	FB:MOANALUA WELLS (331-223-TP202)	100	96	109	105	109	104	102	102
LCS 380-209156/22-A	Lab Control Sample	123	118	120	119	120	118	119	121
MBL 380-209156/20-A	Method Blank	110	114	107	115	115	111	109	108
MRL 380-209156/21-A	Lab Control Sample	108	105	106	110	109	107	103	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)
380-199980-B-2-A MSD	Matrix Spike Duplicate	107	111	121	123	116	120	119	116
380-199980-C-2-A MS	Matrix Spike	114	121	110	110	113	110	104	107
380-200003-2	FB:MOANALUA WELLS (331-223-TP202)	111	110	110	111	111	116	111	107
LCS 380-209156/22-A	Lab Control Sample	123	125	133	126	127	118	124	122
MBL 380-209156/20-A	Method Blank	115	110	114	112	114	109	110	105
MRL 380-209156/21-A	Lab Control Sample	119	111	105	110	113	105	102	103

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA

Isotope Dilution Summary

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

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 380-209156/20-A
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209156

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		02/26/26 17:40	02/27/26 08:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		02/26/26 17:40	02/27/26 08:25	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*110*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C6 PFDA	*114*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C5 PFHxA	*107*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C4 PFHpA	*115*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C8 PFOA	*115*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C9 PFNA	*111*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C7 PFUnA	*109*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C2 PFDoA	*108*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C4 PFBA	*115*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C5 PFPeA	*110*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C3 PFBS	*114*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*
13C3 PFHxS	*112*		*50 - 200*	*02/26/26 17:40*	*02/27/26 08:25*	*1*

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

Lab Sample ID: MBL 380-209156/20-A
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209156

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	114		50 - 200	02/26/26 17:40	02/27/26 08:25	1
13C2-4:2-FTS	109		50 - 200	02/26/26 17:40	02/27/26 08:25	1
13C2-6:2-FTS	110		50 - 200	02/26/26 17:40	02/27/26 08:25	1
13C2-8:2-FTS	105		50 - 200	02/26/26 17:40	02/27/26 08:25	1

Lab Sample ID: LCS 380-209156/22-A
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209156

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	54.7		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	53.4		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	55.5		ng/L		92	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	56.0		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	51.6		ng/L		86	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	54.3		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	58.8		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	55.4		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	55.2		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	55.6		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	60.1	54.8		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	54.0		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	57.6		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	57.7		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	52.4		ng/L		87	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	54.7		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	59.7		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	55.8		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	51.4		ng/L		86	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	53.8		ng/L		89	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	52.5		ng/L		87	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	53.3		ng/L		89	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	54.3		ng/L		90	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	55.5		ng/L		92	70 - 130

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

Lab Sample ID: LCS 380-209156/22-A
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209156

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			60.1	54.1		ng/L		90	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*123*		*50 - 200*
13C6 PFDA	*118*		*50 - 200*
13C5 PFHxA	*120*		*50 - 200*
13C4 PFHpA	*119*		*50 - 200*
13C8 PFOA	*120*		*50 - 200*
13C9 PFNA	*118*		*50 - 200*
13C7 PFUnA	*119*		*50 - 200*
13C2 PFDoA	*121*		*50 - 200*
13C4 PFBA	*123*		*50 - 200*
13C5 PFPeA	*125*		*50 - 200*
13C3 PFBS	*133*		*50 - 200*
13C3 PFHxS	*126*		*50 - 200*
13C8 PFOS	*127*		*50 - 200*
13C2-4:2-FTS	*118*		*50 - 200*
13C2-6:2-FTS	*124*		*50 - 200*
13C2-8:2-FTS	*122*		*50 - 200*

Lab Sample ID: MRL 380-209156/21-A
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209156

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	1.93	J	ng/L		96	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	1.88	J	ng/L		94	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.09	J	ng/L		104	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.13	J	ng/L		106	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.10	J	ng/L		105	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.14	J	ng/L		107	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.09	J	ng/L		104	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.18	J	ng/L		109	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.15	J	ng/L		107	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.20	J	ng/L		110	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.03	J	ng/L		101	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.08	J	ng/L		104	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.21	J	ng/L		110	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.12	J	ng/L		106	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	1.83	J	ng/L		92	50 - 150		

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

Lab Sample ID: MRL 380-209156/21-A
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209156

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			2.00	2.11	J	ng/L		105	50 - 150		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			2.00	2.27	J	ng/L		113	50 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			2.00	2.43	J	ng/L		121	50 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.00	2.08	J	ng/L		104	50 - 150		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.00	2.15	J	ng/L		107	50 - 150		
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.00	2.01	J	ng/L		100	50 - 150		
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.00	2.09	J	ng/L		104	50 - 150		
Perfluoropentanoic acid (PFPeA)			2.00	2.20	J	ng/L		110	50 - 150		
Perfluoroheptanesulfonic acid (PFHpS)			2.00	2.05	J	ng/L		102	50 - 150		
Perfluoropentanesulfonic acid (PFPeS)			2.00	1.99	J	ng/L		99	50 - 150		

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*108*		*50 - 200*
13C6 PFDA	*105*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*110*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*107*		*50 - 200*
13C7 PFUnA	*103*		*50 - 200*
13C2 PFDoA	*107*		*50 - 200*
13C4 PFBA	*119*		*50 - 200*
13C5 PFPeA	*111*		*50 - 200*
13C3 PFBS	*105*		*50 - 200*
13C3 PFHxS	*110*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*105*		*50 - 200*
13C2-6:2-FTS	*102*		*50 - 200*
13C2-8:2-FTS	*103*		*50 - 200*

Lab Sample ID: 380-199980-B-2-A MSD
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 209156

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		60.5	53.3		ng/L		88	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	56.9		ng/L		94	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	54.1		ng/L		89	70 - 130	6	30

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

Lab Sample ID: 380-199980-B-2-A MSD
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 209156

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		60.5	55.1		ng/L		91	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	3.8		60.5	57.5		ng/L		89	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	2.1		60.5	58.4		ng/L		93	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	57.7		ng/L		95	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	3.0		60.5	58.5		ng/L		92	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	7.7		60.5	62.6		ng/L		91	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	7.1		60.5	62.5		ng/L		92	70 - 130	1	30
Perfluorononanoic acid (PFNA)	7.1		60.5	64.4		ng/L		95	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.5	56.6		ng/L		91	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	8.7		60.5	65.2		ng/L		93	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	57.6		ng/L		94	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	5.8		60.5	61.8		ng/L		93	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	57.9		ng/L		96	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	54.5		ng/L		90	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	58.7		ng/L		97	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	54.5		ng/L		90	70 - 130	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.5	54.4		ng/L		90	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	57.0		ng/L		94	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	54.7		ng/L		90	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	10		60.5	67.4		ng/L		95	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	58.6		ng/L		97	70 - 130	7	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	56.3		ng/L		92	70 - 130	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*102*		*50 - 200*
13C6 PFDA	*84*		*50 - 200*
13C5 PFHxA	*99*		*50 - 200*
13C4 PFHpA	*102*		*50 - 200*
13C8 PFOA	*99*		*50 - 200*
13C9 PFNA	*93*		*50 - 200*
13C7 PFUnA	*82*		*50 - 200*
13C2 PFDoA	*87*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*111*		*50 - 200*
13C3 PFBS	*121*		*50 - 200*
13C3 PFHxS	*123*		*50 - 200*
13C8 PFOS	*116*		*50 - 200*

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

Lab Sample ID: 380-199980-B-2-A MSD
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 209156

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2-4:2-FTS	120		50 - 200
13C2-6:2-FTS	119		50 - 200
13C2-8:2-FTS	116		50 - 200

Lab Sample ID: 380-199980-C-2-A MS
Matrix: Water
Analysis Batch: 209302

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 209156

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		60.4	52.7		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	53.4		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	57.6		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	56.7		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	3.8		60.4	59.6		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	2.1		60.4	58.8		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	56.0		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	3.0		60.4	60.7		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	7.7		60.4	62.9		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	7.1		60.4	62.1		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	7.1		60.4	61.4		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	55.4		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	8.7		60.4	67.9		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	57.8		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	5.8		60.4	60.9		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	55.9		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	55.9		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	57.7		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	58.5		ng/L		97	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.4	57.0		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	58.0		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	56.9		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	10		60.4	68.4		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	54.8		ng/L		91	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	56.7		ng/L		92	70 - 130

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

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	111		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	113		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	114		50 - 200
13C4 PFBA	114		50 - 200
13C5 PFPeA	121		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	107		50 - 200

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

Lab Sample ID: MBL 380-210495/19-A
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210495

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		03/04/26 10:00	03/05/26 12:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		03/04/26 10:00	03/05/26 12:20	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	113		70 - 130	03/04/26 10:00	03/05/26 12:20	1
13C2 PFHxA	119		70 - 130	03/04/26 10:00	03/05/26 12:20	1
13C2 PFDA	117		70 - 130	03/04/26 10:00	03/05/26 12:20	1

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

Lab Sample ID: MBL 380-210495/19-A
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210495

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	111		70 - 130	03/04/26 10:00	03/05/26 12:20	1

Lab Sample ID: LCS 380-210495/21-A
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.0	27.6		ng/L		111	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.0	27.3		ng/L		109	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	29.2		ng/L		117	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	26.8		ng/L		107	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	25.5		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	27.8		ng/L		111	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	27.6		ng/L		110	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	29.9		ng/L		120	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	30.0		ng/L		120	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	28.2		ng/L		113	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	25.5		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	29.9		ng/L		119	70 - 130
Perfluorononanoic acid (PFNA)	25.0	28.2		ng/L		113	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	20.1		ng/L		80	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	29.1		ng/L		116	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	28.2		ng/L		113	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	26.8		ng/L		107	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	27.4		ng/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	123		70 - 130
13C2 PFHxA	127		70 - 130
13C2 PFDA	129		70 - 130
13C3-GenX	124		70 - 130

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

Lab Sample ID: MRL 380-210495/20-A
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210495

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.15	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.64	J	ng/L		132	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.91	J	ng/L		95	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.47	J	ng/L		123	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.56	J	ng/L		128	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.01	J	ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.77	J	ng/L		139	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.83	J	ng/L		91	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.51	J	ng/L		126	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.20	J	ng/L		110	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.96	J	ng/L		98	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.37	J	ng/L		119	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*102*		*70 - 130*
13C2 PFHxA	*127*		*70 - 130*
13C2 PFDA	*125*		*70 - 130*
13C3-GenX	*115*		*70 - 130*

Lab Sample ID: 380-200546-B-1-A MS
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 210495

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		25.2	31.1		ng/L		124	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	27.7		ng/L		110	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	32.4		ng/L		129	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	26.7		ng/L		106	70 - 130

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

Lab Sample ID: 380-200546-B-1-A MS
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 210495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.2	26.2		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	30.1		ng/L		120	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	30.7		ng/L		122	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.2	31.7		ng/L		126	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.2	31.8		ng/L		126	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	29.7		ng/L		118	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	29.0		ng/L		115	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0	F1	25.2	33.5	F1	ng/L		133	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.2	28.7		ng/L		114	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	25.1		ng/L		100	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.2	31.5		ng/L		125	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	28.8		ng/L		114	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	28.3		ng/L		113	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	30.6		ng/L		122	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*110*		*70 - 130*
13C2 PFHxA	*135*	*S1+*	*70 - 130*
13C2 PFDA	*137*	*S1+*	*70 - 130*
13C3-GenX	*128*		*70 - 130*

Lab Sample ID: 380-200546-C-1-A MSD
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 210495

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		25.2	27.9		ng/L		111	70 - 130	11	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	28.0		ng/L		111	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	27.1		ng/L		108	70 - 130	18	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	25.6		ng/L		102	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.2	25.4		ng/L		101	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	27.2		ng/L		108	70 - 130	10	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	26.6		ng/L		106	70 - 130	14	30
Perfluorooctanoic acid (PFOA)	<2.0		25.2	28.1		ng/L		112	70 - 130	12	30
Perfluorodecanoic acid (PFDA)	<2.0		25.2	27.3		ng/L		108	70 - 130	15	30

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

Lab Sample ID: 380-200546-C-1-A MSD
Matrix: Water
Analysis Batch: 210887

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 210495

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	27.9		ng/L		111	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	27.1		ng/L		108	70 - 130	7	30
Perfluoroheptanoic acid (PFHpA)	<2.0	F1	25.2	29.5		ng/L		117	70 - 130	13	30
Perfluorononanoic acid (PFNA)	<2.0		25.2	27.4		ng/L		109	70 - 130	5	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	20.3		ng/L		81	70 - 130	21	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.2	27.0		ng/L		107	70 - 130	15	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	26.6		ng/L		106	70 - 130	8	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	26.5		ng/L		105	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	26.0		ng/L		103	70 - 130	16	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*116*		*70 - 130*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*121*		*70 - 130*
13C3-GenX	*126*		*70 - 130*

LCMS

Prep Batch: 209156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-200003-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-200003-2	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
MBL 380-209156/20-A	Method Blank	Total/NA	Water	533	
LCS 380-209156/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-209156/21-A	Lab Control Sample	Total/NA	Water	533	
380-199980-B-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	
380-199980-C-2-A MS	Matrix Spike	Total/NA	Water	533	

Analysis Batch: 209302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-200003-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	209156
380-200003-2	FB:MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	209156
MBL 380-209156/20-A	Method Blank	Total/NA	Water	533	209156
LCS 380-209156/22-A	Lab Control Sample	Total/NA	Water	533	209156
MRL 380-209156/21-A	Lab Control Sample	Total/NA	Water	533	209156
380-199980-B-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	209156
380-199980-C-2-A MS	Matrix Spike	Total/NA	Water	533	209156

Prep Batch: 210495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-200003-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
MBL 380-210495/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-210495/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-210495/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-200546-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-200546-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 210887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-200003-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA 537.1 V2	210495
MBL 380-210495/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	210495
LCS 380-210495/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	210495
MRL 380-210495/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	210495
380-200546-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	210495
380-200546-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	210495

Lab Chronicle

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

Job ID: 380-200003-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: 380-200003-1

Date Collected: 02/23/26 10:14

Matrix: Drinking Water

Date Received: 02/25/26 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			209156	E2HD	EA POM	02/26/26 17:40
Total/NA	Analysis	533		1	209302	SZ9R	EA POM	02/27/26 12:11
Total/NA	Prep	537.1 DW			210495	WZH3	EA POM	03/04/26 10:00
Total/NA	Analysis	EPA 537.1 V2		1	210887	SZ9R	EA POM	03/05/26 09:18

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

Lab Sample ID: 380-200003-2

Date Collected: 02/23/26 10:14

Matrix: Water

Date Received: 02/25/26 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			209156	E2HD	EA POM	02/26/26 17:40
Total/NA	Analysis	533		1	209302	SZ9R	EA POM	02/27/26 12:21

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: 380-200003-1
SDG: PFAS: Moanalua Wells

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: 380-200003-1
SDG: PFAS: Moanalua Wells

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: 380-200003-1
SDG: PFAS: Moanalua Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-200003-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	02/23/26 10:14	02/25/26 09:40	Hawaii
380-200003-2	FB:MOANALUA WELLS (331-223-TP202)	Water	02/23/26 10:14	02/25/26 09:40	Hawaii

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

Chain of Custody Record

eurofins

Client Information	Sampler: bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No: 380-200003 COC
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:	Analysis 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#:	

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:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	637.1_DW_PREC - 637.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	A	Q	QA	Y	I		
Moanalua Wells	23-Feb-2026	1014	G	Water							3	3		chlorinated
FB Moanalua Wells	23-Feb-2026	1014									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: FedEx: 8890 3955 5067
[redacted]	Date/Time: 24[illegible]-2026 1400	Company: HBWS	Received by: Mark Uruta
Relinquished by:	Date/Time:	Company	Received by: Date/Time: 2/25/26 940 Company: EFM
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: (63/11) 1.5+0.2 = 1.7 gel-frozen

Ver 01/16/2019

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

Chain of Custody Record

eurofins

380-200003 COC

Client Information	Sampler: bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No: 380-200003 COC
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:	Analysis Requested	Preservation Codes:
City: Honolulu	TAT Requested (days):		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)
State, Zip: HI, 96843	Compliance Project: Δ No		
Phone: 808-748-5840 (tel)	PO #: C20525101 exp 05312023		Other:
Email: kiwamoto@hbws.org	WO #:		
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111		
Site:	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	637.1_DW_PREC - 637.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	A	Q	QA	Y	I		
Moanalua Wells	23-Feb-2026	1014	G	Water							3	3		chlorinated
FB Moanalua Wells	23-Feb-2026	1014									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: [redacted]	Date:	Time:	Method of Shipment: FedEx: 8890 3955 5067
Relinquished by:	Date/Time: 24-Feb-2026 1400	Company: HBWS	Received by: Mark Urrutia Date/Time: 2/25/26 940 Company: EFA
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: (6314) 1.5 + 0.2 = 1.7 gel - frozen

Ver 01/16/2019

Page 31 of 32

3/11/2026

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-200003-1
SDG Number: PFAS: Moanalua Wells

Login Number: 200003
List Number: 1
Creator: Gross, Drake

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).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	