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ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/7/2026 4:34:43 PM

JOB DESCRIPTION

RED-HILL
PFAS: Moanalua Wells

JOB NUMBER

380-210987-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Job Notes

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

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

Compliance Statement

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

Authorization

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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-210987-1
SDG: PFAS: Moanalua Wells

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
380-210987-1

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 4/29/2026 9:47 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.9°C, 2.1°C and 3.6°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: 380-210987-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-210987-1

No Detections.

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-210987-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-210987-1
SDG: PFAS: Moanalua Wells

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

Date Collected: 04/27/26 10:14
Date Received: 04/29/26 09:47

Lab Sample ID: 380-210987-1

Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C6 PFDA	*96*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C5 PFHxA	*111*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C4 PFHpA	*108*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C8 PFOA	*105*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C9 PFNA	*100*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C7 PFUnA	*97*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C2 PFDoA	*100*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C4 PFBA	*105*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C5 PFPeA	*116*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C3 PFBS	*115*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C3 PFHxS	*110*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*
13C8 PFOS	*104*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:56*	*1*

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

Lab Sample ID: 380-210987-1
Date Collected: 04/27/26 10:14
Matrix: Drinking Water
Date Received: 04/29/26 09:47
PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	130		50 - 200	05/06/26 17:05	05/07/26 12:56	1
13C2-6:2-FTS	128		50 - 200	05/06/26 17:05	05/07/26 12:56	1
13C2-8:2-FTS	117		50 - 200	05/06/26 17:05	05/07/26 12:56	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		04/30/26 17:41	05/01/26 08:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 08:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105		70 - 130	04/30/26 17:41	05/01/26 08:40	1
13C2 PFHxA	112		70 - 130	04/30/26 17:41	05/01/26 08:40	1
13C2 PFDA	111		70 - 130	04/30/26 17:41	05/01/26 08:40	1
13C3-GenX	105		70 - 130	04/30/26 17:41	05/01/26 08:40	1

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

Lab Sample ID: 380-210987-2
Date Collected: 04/27/26 10:14
Matrix: Water
Date Received: 04/29/26 09:47
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1

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

Date Collected: 04/27/26 10:14
Date Received: 04/29/26 09:47

Lab Sample ID: 380-210987-2

Matrix: Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/06/26 17:05	05/07/26 12:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*107*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C6 PFDA	*111*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C5 PFHxA	*108*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C4 PFHpA	*113*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C8 PFOA	*111*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C9 PFNA	*111*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C7 PFUnA	*108*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C2 PFDoA	*110*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C4 PFBA	*110*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C5 PFPeA	*108*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C3 PFBS	*110*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C3 PFHxS	*111*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C8 PFOS	*112*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C2-4:2-FTS	*117*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C2-6:2-FTS	*114*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*1*
13C2-8:2-FTS	*114*		*50 - 200*	*05/06/26 17:05*	*05/07/26 12:18*	*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		04/30/26 17:41	05/01/26 11:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1

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

Job ID: 380-210987-1
SDG: PFAS: Moanalua Wells

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)
Date Collected: 04/27/26 10:14
Date Received: 04/29/26 09:47

Lab Sample ID: 380-210987-2
Matrix: Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/30/26 17:41	05/01/26 11:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*100*		*70 - 130*	*04/30/26 17:41*	*05/01/26 11:56*	*1*
13C2 PFHxA	*96*		*70 - 130*	*04/30/26 17:41*	*05/01/26 11:56*	*1*
13C2 PFDA	*107*		*70 - 130*	*04/30/26 17:41*	*05/01/26 11:56*	*1*
13C3-GenX	*93*		*70 - 130*	*04/30/26 17:41*	*05/01/26 11:56*	*1*

Action Limit Summary

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

Job ID: 380-210987-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: 380-210987-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		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: 380-210987-2

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	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: 380-210987-1
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)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-210987-1	MOANALUA WELLS (331-223-T	105	112	111	105
380-210987-1 MS	MOANALUA WELLS (331-223-TP202)	101	109	109	104
380-210987-1 MSD	MOANALUA WELLS (331-223-TP202)	105	109	111	109

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)
380-210987-2	FB: MOANALUA WELLS (331-2	10	96	107	93
LCS 380-224161/21-A	Lab Control Sample	105	107	111	105
MBL 380-224161/19-A	Method Blank	117	112	114	109
MRL 380-224161/20-A	Lab Control Sample	107	105	111	101

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: 380-210987-1
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)
380-210987-1	MOANALUA WELLS (331-223-T	103	96	111	108	105	100	97	100

		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)
380-210987-1	MOANALUA WELLS (331-223-T	105	116	115	110	104	130	128	117

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)
380-210925-A-1-B MS	Matrix Spike	109	106	104	109	103	105	104	105
380-210925-A-1-C MSD	Matrix Spike Duplicate	107	106	103	104	99	106	105	105
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	107	111	108	113	111	111	108	110
LCS 380-225352/42-A	Lab Control Sample	108	106	108	107	102	104	110	103
MBL 380-225352/40-A	Method Blank	104	103	107	107	111	107	102	107
MRL 380-225352/41-A	Lab Control Sample	105	97	105	110	103	99	98	100

		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)
380-210925-A-1-B MS	Matrix Spike	102	110	103	104	103	102	106	101
380-210925-A-1-C MSD	Matrix Spike Duplicate	102	112	103	105	103	106	106	109
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	110	108	110	111	112	117	114	114
LCS 380-225352/42-A	Lab Control Sample	99	103	104	103	103	105	106	99
MBL 380-225352/40-A	Method Blank	104	108	108	106	111	114	114	108
MRL 380-225352/41-A	Lab Control Sample	103	102	105	110	106	111	106	100

Surrogate Legend

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

Isotope Dilution Summary

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

Job ID: 380-210987-1
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

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

Job ID: 380-210987-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: MBL 380-225352/40-A
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 225352

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		05/06/26 17:05	05/07/26 08:51	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*104*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C6 PFDA	*103*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C5 PFHxA	*107*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C4 PFHpA	*107*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C8 PFOA	*111*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C9 PFNA	*107*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C7 PFUnA	*102*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C2 PFDoA	*107*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C4 PFBA	*104*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C5 PFPeA	*108*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C3 PFBS	*108*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*
13C3 PFHxS	*106*		*50 - 200*	*05/06/26 17:05*	*05/07/26 08:51*	*1*

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

Lab Sample ID: MBL 380-225352/40-A
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 225352

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	111		50 - 200	05/06/26 17:05	05/07/26 08:51	1
13C2-4:2-FTS	114		50 - 200	05/06/26 17:05	05/07/26 08:51	1
13C2-6:2-FTS	114		50 - 200	05/06/26 17:05	05/07/26 08:51	1
13C2-8:2-FTS	108		50 - 200	05/06/26 17:05	05/07/26 08:51	1

Lab Sample ID: LCS 380-225352/42-A
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225352

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	121		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	115		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	112		ng/L		93	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	114		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	116		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	120	116		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	120	120		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	113		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	116		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	120	107		ng/L		89	70 - 130
Perfluorononanoic acid (PFNA)	120	117		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	119		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	120	116		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	116		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	114		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	114		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	116		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	117		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	112		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	120	116		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	116		ng/L		96	70 - 130

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

Lab Sample ID: LCS 380-225352/42-A
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225352

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	112		ng/L		93	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*108*		*50 - 200*
13C6 PFDA	*106*		*50 - 200*
13C5 PFHxA	*108*		*50 - 200*
13C4 PFHpA	*107*		*50 - 200*
13C8 PFOA	*102*		*50 - 200*
13C9 PFNA	*104*		*50 - 200*
13C7 PFUnA	*110*		*50 - 200*
13C2 PFDoA	*103*		*50 - 200*
13C4 PFBA	*99*		*50 - 200*
13C5 PFPeA	*103*		*50 - 200*
13C3 PFBS	*104*		*50 - 200*
13C3 PFHxS	*103*		*50 - 200*
13C8 PFOS	*103*		*50 - 200*
13C2-4:2-FTS	*105*		*50 - 200*
13C2-6:2-FTS	*106*		*50 - 200*
13C2-8:2-FTS	*99*		*50 - 200*

Lab Sample ID: MRL 380-225352/41-A
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225352

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.06	J	ng/L		103	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.02	J	ng/L		101	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.12	J	ng/L		106	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.17	J	ng/L		109	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.07	J	ng/L		104	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.32	J	ng/L		116	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.25	J	ng/L		112	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.07	J	ng/L		104	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.14	J	ng/L		107	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.01	J	ng/L		101	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.07	J	ng/L		103	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	2.14	J	ng/L		107	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	2.14	J	ng/L		107	50 - 150		

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

Lab Sample ID: MRL 380-225352/41-A
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225352

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.13	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.24	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.23	J	ng/L		111	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.25	J	ng/L		112	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.00	J	ng/L		100	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*105*		*50 - 200*
13C6 PFDA	*97*		*50 - 200*
13C5 PFHxA	*105*		*50 - 200*
13C4 PFHpA	*110*		*50 - 200*
13C8 PFOA	*103*		*50 - 200*
13C9 PFNA	*99*		*50 - 200*
13C7 PFUnA	*98*		*50 - 200*
13C2 PFDoA	*100*		*50 - 200*
13C4 PFBA	*103*		*50 - 200*
13C5 PFPeA	*102*		*50 - 200*
13C3 PFBS	*105*		*50 - 200*
13C3 PFHxS	*110*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*111*		*50 - 200*
13C2-6:2-FTS	*106*		*50 - 200*
13C2-8:2-FTS	*100*		*50 - 200*

Lab Sample ID: 380-210925-A-1-B MS
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225352

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	117		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	116		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	114		ng/L		94	70 - 130

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

Lab Sample ID: 380-210925-A-1-B MS
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225352

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	116		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	121		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	117		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	115		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	114		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	117		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	112		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	115		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.3		121	124		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	117		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	117		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	121		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	121		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	125		ng/L		104	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	122		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	119		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	124		ng/L		103	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	120		ng/L		100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	116		ng/L		96	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*109*		*50 - 200*
13C6 PFDA	*106*		*50 - 200*
13C5 PFHxA	*104*		*50 - 200*
13C4 PFHpA	*109*		*50 - 200*
13C8 PFOA	*103*		*50 - 200*
13C9 PFNA	*105*		*50 - 200*
13C7 PFUnA	*104*		*50 - 200*
13C2 PFDoA	*105*		*50 - 200*
13C4 PFBA	*102*		*50 - 200*
13C5 PFPeA	*110*		*50 - 200*
13C3 PFBS	*103*		*50 - 200*
13C3 PFHxS	*104*		*50 - 200*
13C8 PFOS	*103*		*50 - 200*

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

Lab Sample ID: 380-210925-A-1-B MS
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225352

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: 380-210925-A-1-C MSD
Matrix: Water
Analysis Batch: 225486

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 225352

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	120		ng/L		100	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	116		ng/L		96	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	113		ng/L		94	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	116		ng/L		96	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	116		ng/L		96	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		121	116		ng/L		96	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	114		ng/L		94	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	113		ng/L		94	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	114		ng/L		94	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	113		ng/L		94	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		121	111		ng/L		92	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	2.3		121	119		ng/L		97	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		121	119		ng/L		99	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	118		ng/L		97	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		121	116		ng/L		96	70 - 130	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	112		ng/L		93	70 - 130	7	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	113		ng/L		93	70 - 130	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	115		ng/L		96	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	117		ng/L		97	70 - 130	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	116		ng/L		96	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	115		ng/L		96	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	115		ng/L		95	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	116		ng/L		96	70 - 130	6	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	114		ng/L		94	70 - 130	6	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	112		ng/L		93	70 - 130	4	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	107		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	105		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	106		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	109		50 - 200

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

Lab Sample ID: MBL 380-224161/19-A
Matrix: Water
Analysis Batch: 224311

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224161

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		04/30/26 17:41	05/01/26 08:09	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		04/30/26 17:41	05/01/26 08:09	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	117		70 - 130	04/30/26 17:41	05/01/26 08:09	1
13C2 PFHxA	112		70 - 130	04/30/26 17:41	05/01/26 08:09	1
13C2 PFDA	114		70 - 130	04/30/26 17:41	05/01/26 08:09	1

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

Lab Sample ID: MBL 380-224161/19-A
Matrix: Water
Analysis Batch: 224311

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224161

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	109		70 - 130	04/30/26 17:41	05/01/26 08:09	1

Lab Sample ID: LCS 380-224161/21-A
Matrix: Water
Analysis Batch: 224311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224161

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.0	47.3		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.0	50.4		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	50.6		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	49.3		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	48.2		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	48.6		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	49.3		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	50.0		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	48.8		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	51.2		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	50.7		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	48.3		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	50.0	50.1		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	45.2		ng/L		90	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	50.0		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	49.5		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	49.8		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	48.5		ng/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	105		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	111		70 - 130
13C3-GenX	105		70 - 130

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

Lab Sample ID: MRL 380-224161/20-A
Matrix: Water
Analysis Batch: 224311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224161

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.76	J	ng/L		88	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.92	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.04	J	ng/L		102	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.83	J	ng/L		91	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.86	J	ng/L		93	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.82	J	ng/L		91	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.89	J	ng/L		95	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.85	J	ng/L		93	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	1.99	J	ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.84	J	ng/L		92	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.78	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.88	J	ng/L		94	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*107*		*70 - 130*
13C2 PFHxA	*105*		*70 - 130*
13C2 PFDA	*111*		*70 - 130*
13C3-GenX	*101*		*70 - 130*

Lab Sample ID: 380-210987-1 MS
Matrix: Drinking Water
Analysis Batch: 224311

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 224161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	49.4		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	53.5		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	52.9		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	48.0		ng/L		96	70 - 130

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

Lab Sample ID: 380-210987-1 MS
Matrix: Drinking Water
Analysis Batch: 224311

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 224161

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	47.5		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	52.6		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	48.9		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.2	50.3		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.2	50.6		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	52.6		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	51.8		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	52.1		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.2	51.9		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	47.5		ng/L		95	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	53.4		ng/L		106	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	49.8		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	51.3		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	50.0		ng/L		100	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*101*		*70 - 130*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*109*		*70 - 130*
13C3-GenX	*104*		*70 - 130*

Lab Sample ID: 380-210987-1 MSD
Matrix: Drinking Water
Analysis Batch: 224311

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 224161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.1	49.3		ng/L		98	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.1	52.6		ng/L		101	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.1	51.2		ng/L		102	70 - 130	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.1	47.6		ng/L		95	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.1	48.5		ng/L		97	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.1	51.8		ng/L		101	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.1	47.9		ng/L		96	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		50.1	49.5		ng/L		97	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		50.1	51.0		ng/L		102	70 - 130	1	30

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

Lab Sample ID: 380-210987-1 MSD
Matrix: Drinking Water
Analysis Batch: 224311

Client Sample ID: MOANALUA WELLS (331-223-TP202)
Prep Type: Total/NA
Prep Batch: 224161

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.1	53.1		ng/L		103	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.1	51.8		ng/L		102	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.1	48.8		ng/L		96	70 - 130	7	30
Perfluorononanoic acid (PFNA)	<2.0		50.1	49.9		ng/L		100	70 - 130	4	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.1	47.5		ng/L		95	70 - 130	0	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.1	52.4		ng/L		105	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.1	50.7		ng/L		101	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.1	50.3		ng/L		100	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.1	49.5		ng/L		99	70 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*105*		*70 - 130*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*111*		*70 - 130*
13C3-GenX	*109*		*70 - 130*

LCMS

Prep Batch: 224161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210987-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
MBL 380-224161/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-224161/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-224161/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-210987-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-210987-1 MSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 224311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210987-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA 537.1 V2	224161
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	EPA 537.1 V2	224161
MBL 380-224161/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	224161
LCS 380-224161/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	224161
MRL 380-224161/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	224161
380-210987-1 MS	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA 537.1 V2	224161
380-210987-1 MSD	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA 537.1 V2	224161

Prep Batch: 225352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210987-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
MBL 380-225352/40-A	Method Blank	Total/NA	Water	533	
LCS 380-225352/42-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-225352/41-A	Lab Control Sample	Total/NA	Water	533	
380-210925-A-1-B MS	Matrix Spike	Total/NA	Water	533	
380-210925-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 225486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	225352
MBL 380-225352/40-A	Method Blank	Total/NA	Water	533	225352
LCS 380-225352/42-A	Lab Control Sample	Total/NA	Water	533	225352
MRL 380-225352/41-A	Lab Control Sample	Total/NA	Water	533	225352
380-210925-A-1-B MS	Matrix Spike	Total/NA	Water	533	225352
380-210925-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	225352

Analysis Batch: 225523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210987-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	225352

Lab Chronicle

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

Job ID: 380-210987-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: 380-210987-1
Matrix: Drinking Water
Date Collected: 04/27/26 10:14
Date Received: 04/29/26 09:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			225352	E2HD	EA POM	05/06/26 17:05
Total/NA	Analysis	533		1	225523	Y5FM	EA POM	05/07/26 12:56
Total/NA	Prep	537.1 DW			224161	E2HD	EA POM	04/30/26 17:41
Total/NA	Analysis	EPA 537.1 V2		1	224311	SZ9R	EA POM	05/01/26 08:40

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

Lab Sample ID: 380-210987-2
Matrix: Water
Date Collected: 04/27/26 10:14
Date Received: 04/29/26 09:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			225352	E2HD	EA POM	05/06/26 17:05
Total/NA	Analysis	533		1	225486	SZ9R	EA POM	05/07/26 12:18
Total/NA	Prep	537.1 DW			224161	E2HD	EA POM	04/30/26 17:41
Total/NA	Analysis	EPA 537.1 V2		1	224311	SZ9R	EA POM	05/01/26 11:56

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: 380-210987-1
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: 380-210987-1
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: 380-210987-1
SDG: PFAS: Moanalua Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-210987-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	04/27/26 10:14	04/29/26 09:47	HI0000331
380-210987-2	FB: MOANALUA WELLS (331-223-TP202)	Water	04/27/26 10:14	04/29/26 09:47	HI0000331

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

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: bailey	Lab PM: Lopez, Mana	Carrier Tracking No(s):	COC No:
Client Contact: kirk iwamoto	Phone: +1 808 748 5840	E-Mail: Mana.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#:			

380-210987 COC

Analysis Requested

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	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	A	Q	QA	Y	I		
Moanalua Wells (331-223-TP202)	27-Apr-2026	1014	G	Water							3	3		chlorinated
FB: Moanalua Wells (331-223-TP202)	27-Apr-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: FED EX 7711 8873 3026
[redacted]	Date/Time: 4/28/2026 1400	Company: HBWS	Received by:	Date/Time: 4/28/26 1447	Company: FEDEX
	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: G31A 3.4 IR-8: 3.6 Corr Frozen

Ver: 01/16/2019

Page 31 of 34

5/7/2026

ORIGIN ID HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S BERETANIA ST
CHEMICAL LABORATORY
HONOLULU HI 96843
UNITED STATES US

SHIP DATE: 28APR26
ACTWGT 62.00 LB
CAD 258050552/INET4535

BILL RECIPIENT

TO EUROFINS RECEIVING DEPARTMENT
EUROFINS DRINKING WATER TESTING
941 CORPORATE CENTER DR

POMONA CA 91768
(626) 386-1100 REF:
INV:
PO: DEPT.

58KJ4/42C3/484B

FedEx Express

J261026012001uv

6 of 7

WED - 29 APR 10:30A
PRIORITY OVERNIGHT

MPS# 0263 8711 8873 3051
Mstr# 8711 8873 3007

0201

91768

WM ONTA

CA-US ONT

6 31A 0.7 4 c.2 = 0.4 gal Fuel

UI 29126 947

After printing this label
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
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ORIGIN ID:HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST
CHEMICAL LABORATORY
HONOLULU HI 96843
UNITED STATES US

SHIP DATE: 28APR26
ACTWGT 62.00 LB
CAD 258050552/INET4535

BILL RECIPIENT

TO **EUROFINS RECEIVING DEPARTMENT**
EUROFINS DRINKING WATER TESTING
941 CORPORATE CENTER DR

POMONA CA 91768
(626) 386-1100 REF:
INV:
PO: DEPT

58KJ4/42C3/4B4B

FedEx Express

J26102601200 1of

3 of 7

WED - 29 APR 10:30A
PRIORITY OVERNIGHT

MPS# 0263 8711 8873 3029
Mstr# 8711 8873 3007

0201

91768

WM ONTA

CA-US ONT

630A 21+00 - 21 GEL

4/29/26 0947

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2 Place label in shipping pouch and affix it to your shipment

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-210987-1
SDG Number: PFAS: Moanalua Wells

Login Number: 210987
List Number: 1
Creator: Tran, Kristine

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	