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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells P1

JOB NUMBER

380-246483-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

my EOL

Job Notes

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

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

Compliance Statement

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

Authorization



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Definitions/Glossary

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Qualifiers

LCMS

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

Glossary

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

Job Narrative
380-246483-1

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 11/5/2026 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.9°C.

PFAS
EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results: Halawa Wells P1 (331-023-WL065) (380-246483-1). (XWB4)

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

Detection Summary

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065) — Lab Sample ID: 380-246483-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.5		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.0		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	2.2		2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.8		2.0		ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065) — Lab Sample ID: 380-246483-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pomona

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

Lab Sample ID: 380-246483-1

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		11/10/26 05:43	11/11/26 02:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorohexanoic acid (PFHxA)	**2.9**		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoropentanoic acid (PFPeA)	**3.0**		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		11/10/26 05:43	11/11/26 02:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C6 PFDA	*102*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C5 PFHxA	*97*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C4 PFHpA	*95*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C8 PFOA	*95*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C9 PFNA	*101*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C7 PFUnA	*107*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C2 PFDoA	*111*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C4 PFBA	*99*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C5 PFPeA	*103*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C3 PFBS	*103*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*
13C3 PFHxS	*100*		*50 - 200*	*11/10/26 05:43*	*11/11/26 02:43*	*1*

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-246483-1
Matrix: Drinking Water
Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	105		50 - 200	11/10/26 05:43	11/11/26 02:43	1
13C2-4:2-FTS	106		50 - 200	11/10/26 05:43	11/11/26 02:43	1
13C2-6:2-FTS	99		50 - 200	11/10/26 05:43	11/11/26 02:43	1
13C2-8:2-FTS	97		50 - 200	11/10/26 05:43	11/11/26 02:43	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		11/06/26 16:55	11/07/26 17:38	1
Perfluorooctanesulfonic acid (PFOS)	**2.8**		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorohexanoic acid (PFHxA)	**2.9**		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorooctanoic acid (PFOA)	**2.2**		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorohexanesulfonic acid (PFHxS)	**2.8**		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 17:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130	11/06/26 16:55	11/07/26 17:38	1
13C2 PFHxA	98		70 - 130	11/06/26 16:55	11/07/26 17:38	1
13C2 PFDA	102		70 - 130	11/06/26 16:55	11/07/26 17:38	1
13C3-GenX	91		70 - 130	11/06/26 16:55	11/07/26 17:38	1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-246483-2
Matrix: Water
Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

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		11/07/26 16:30	11/09/26 13:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)
Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

Lab Sample ID: 380-246483-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		11/07/26 16:30	11/09/26 13:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*89*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C6 PFDA	*96*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C5 PFHxA	*94*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C4 PFHpA	*91*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C8 PFOA	*103*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C9 PFNA	*97*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C7 PFUnA	*104*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C2 PFDoA	*105*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C4 PFBA	*105*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C5 PFPeA	*113*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C3 PFBS	*110*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C3 PFHxS	*112*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C8 PFOS	*105*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C2-4:2-FTS	*108*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C2-6:2-FTS	*111*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*
13C2-8:2-FTS	*102*		*50 - 200*	*11/07/26 16:30*	*11/09/26 13:32*	*1*

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)
Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

Lab Sample ID: 380-246483-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		11/06/26 16:55	11/07/26 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*101*		*70 - 130*	*11/06/26 16:55*	*11/07/26 20:16*	*1*
13C2 PFHxA	*95*		*70 - 130*	*11/06/26 16:55*	*11/07/26 20:16*	*1*
13C2 PFDA	*99*		*70 - 130*	*11/06/26 16:55*	*11/07/26 20:16*	*1*
13C3-GenX	*87*		*70 - 130*	*11/06/26 16:55*	*11/07/26 20:16*	*1*

Action Limit Summary

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065) — Lab Sample ID: 380-246483-1

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)	2.5		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	2.2		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.8		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: HALAWA WELLS P1 (331-023-WL065) — Lab Sample ID: 380-246483-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Surrogate Summary

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

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)
380-246483-1	HALAWA WELLS P1 (331-023-V	101	98	102	91
380-246483-1 MS	HALAWA WELLS P1 (331-023-WL065)	101	98	100	92
380-246483-1 MSD	HALAWA WELLS P1 (331-023-WL065)	102	101	104	97

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)
380-246483-2	FB: HALAWA WELLS P1 (331-0	101	95	99	87
LCS 380-264150/22-A	Lab Control Sample	94	93	100	85
MBL 380-264150/20-A	Method Blank	104	104	102	95
MRL 380-264150/21-A	Lab Control Sample	94	93	104	85

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: 380-246483-1
SDG: PFAS: Halawa Wells P1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-246483-1	HALAWA WELLS P1 (331-023-V	87	102	97	95	95	101	107	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)
380-246483-1	HALAWA WELLS P1 (331-023-V	99	103	103	100	105	106	99	97

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)
380-246175-B-3-A MS	Matrix Spike	100	102	97	103	105	98	111	110
380-246175-C-3-A MSD	Matrix Spike Duplicate	78	85	81	79	84	82	95	101
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	89	96	94	91	103	97	104	105
380-246991-B-3-A MS	Matrix Spike	85	89	89	88	86	87	94	101
380-246991-C-3-A MSD	Matrix Spike Duplicate	81	54	82	77	73	63	56	68
LCS 380-264230/21-A	Lab Control Sample	94	97	90	99	101	94	110	112
LCS 380-264586/22-A	Lab Control Sample	104	112	103	104	106	113	113	116
MBL 380-264230/19-A	Method Blank	86	96	86	97	102	95	108	110
MBL 380-264586/20-A	Method Blank	92	102	97	95	102	107	107	111
MRL 380-264230/20-A	Lab Control Sample	77	92	80	84	91	86	102	104
MRL 380-264586/21-A	Lab Control Sample	94	108	100	98	101	110	110	112

		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)
380-246175-B-3-A MS	Matrix Spike	106	111	105	112	103	110	114	99
380-246175-C-3-A MSD	Matrix Spike Duplicate	88	94	104	112	105	110	105	99
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	105	113	110	112	105	108	111	102
380-246991-B-3-A MS	Matrix Spike	95	106	104	104	106	113	97	100

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-246483-1
Project/Site: RED-HILL
SDG: PFAS: Halawa Wells P1

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-246991-C-3-A MSD	Matrix Spike Duplicate	95	106	103	105	108	113	100	101
LCS 380-264230/21-A	Lab Control Sample	100	105	109	111	107	109	111	99
LCS 380-264586/22-A	Lab Control Sample	108	109	105	107	112	101	99	102
MBL 380-264230/19-A	Method Blank	100	108	102	113	104	97	107	105
MBL 380-264586/20-A	Method Blank	99	101	107	107	110	102	98	98
MRL 380-264230/20-A	Lab Control Sample	87	94	105	111	105	115	100	103
MRL 380-264586/21-A	Lab Control Sample	105	99	104	105	112	105	98	104

Surrogate Legend

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

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

Lab Sample ID: MBL 380-264230/19-A
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264230

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0		ng/L		11/07/26 16:30	11/09/26 10:16	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*86*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C6 PFDA	*96*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C5 PFHxA	*86*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C4 PFHpA	*97*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C8 PFOA	*102*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C9 PFNA	*95*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C7 PFUnA	*108*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C2 PFDoA	*110*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C4 PFBA	*100*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C5 PFPeA	*108*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C3 PFBS	*102*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*
13C3 PFHxS	*113*		*50 - 200*	*11/07/26 16:30*	*11/09/26 10:16*	*1*

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

Lab Sample ID: MBL 380-264230/19-A
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264230

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	104		50 - 200	11/07/26 16:30	11/09/26 10:16	1
13C2-4:2-FTS	97		50 - 200	11/07/26 16:30	11/09/26 10:16	1
13C2-6:2-FTS	107		50 - 200	11/07/26 16:30	11/09/26 10:16	1
13C2-8:2-FTS	105		50 - 200	11/07/26 16:30	11/09/26 10:16	1

Lab Sample ID: LCS 380-264230/21-A
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264230

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	118	118		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	118	111		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	118	106		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	118	107		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	118	113		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	118	117		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	118	112		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	118	104		ng/L		88	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	118	108		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	118	114		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	118	109		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	118	111		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	118	111		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	118	110		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	118	111		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	118	112		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	118	117		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	118	110		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	118	114		ng/L		97	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	118	122		ng/L		104	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	118	101		ng/L		86	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	118	106		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	118	109		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	118	110		ng/L		93	70 - 130

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

Lab Sample ID: LCS 380-264230/21-A
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264230

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			118	113		ng/L		96	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*94*		*50 - 200*
13C6 PFDA	*97*		*50 - 200*
13C5 PFHxA	*90*		*50 - 200*
13C4 PFHpA	*99*		*50 - 200*
13C8 PFOA	*101*		*50 - 200*
13C9 PFNA	*94*		*50 - 200*
13C7 PFUnA	*110*		*50 - 200*
13C2 PFDoA	*112*		*50 - 200*
13C4 PFBA	*100*		*50 - 200*
13C5 PFPeA	*105*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C3 PFHxS	*111*		*50 - 200*
13C8 PFOS	*107*		*50 - 200*
13C2-4:2-FTS	*109*		*50 - 200*
13C2-6:2-FTS	*111*		*50 - 200*
13C2-8:2-FTS	*99*		*50 - 200*

Lab Sample ID: MRL 380-264230/20-A
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264230

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			1.97	2.34	J	ng/L		119	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			1.97	2.06	J	ng/L		105	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.97	1.90	J	ng/L		96	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			1.97	2.02	J	ng/L		102	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			1.97	2.01	J	ng/L		102	50 - 150		
Perfluorodecanoic acid (PFDA)			1.97	2.15	J	ng/L		109	50 - 150		
Perfluorododecanoic acid (PFDoA)			1.97	2.19	J	ng/L		111	50 - 150		
Perfluoroheptanoic acid (PFHpA)			1.97	2.06	J	ng/L		105	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			1.97	2.10	J	ng/L		107	50 - 150		
Perfluorohexanoic acid (PFHxA)			1.97	2.18	J	ng/L		111	50 - 150		
Perfluorononanoic acid (PFNA)			1.97	1.95	J	ng/L		99	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			1.97	2.07	J	ng/L		105	50 - 150		
Perfluorooctanoic acid (PFOA)			1.97	2.13	J	ng/L		108	50 - 150		
Perfluoroundecanoic acid (PFUnA)			1.97	2.13	J	ng/L		108	50 - 150		
Perfluorobutanoic acid (PFBA)			1.97	2.07	J	ng/L		105	50 - 150		

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

Lab Sample ID: MRL 380-264230/20-A
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264230

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.30	J	ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.04	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.13	J	ng/L		108	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.06	J	ng/L		105	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	2.43	J	ng/L		124	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.77	J	ng/L		90	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.85	J	ng/L		94	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	1.96	J	ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	2.08	J	ng/L		105	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.93	J	ng/L		98	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*77*		*50 - 200*
13C6 PFDA	*92*		*50 - 200*
13C5 PFHxA	*80*		*50 - 200*
13C4 PFHpA	*84*		*50 - 200*
13C8 PFOA	*91*		*50 - 200*
13C9 PFNA	*86*		*50 - 200*
13C7 PFUnA	*102*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*87*		*50 - 200*
13C5 PFPeA	*94*		*50 - 200*
13C3 PFBS	*105*		*50 - 200*
13C3 PFHxS	*111*		*50 - 200*
13C8 PFOS	*105*		*50 - 200*
13C2-4:2-FTS	*115*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*103*		*50 - 200*

Lab Sample ID: 380-246175-B-3-A MS
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 264230

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		58.9	60.6		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		58.9	56.3		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		58.9	56.1		ng/L		95	70 - 130

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

Lab Sample ID: 380-246175-B-3-A MS
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 264230

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		58.9	55.2		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		58.9	57.3		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		58.9	57.7		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		58.9	55.0		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		58.9	53.2		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		58.9	52.6		ng/L		88	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		58.9	59.0		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		58.9	57.1		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		58.9	57.9		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		58.9	58.9		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		58.9	56.4		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		58.9	56.7		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		58.9	59.3		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		58.9	60.0		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		58.9	58.3		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		58.9	55.6		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		58.9	56.8		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		58.9	55.5		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		58.9	56.6		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		58.9	57.6		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		58.9	59.0		ng/L		100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		58.9	56.8		ng/L		96	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*100*		*50 - 200*
13C6 PFDA	*102*		*50 - 200*
13C5 PFHxA	*97*		*50 - 200*
13C4 PFHpA	*103*		*50 - 200*
13C8 PFOA	*105*		*50 - 200*
13C9 PFNA	*98*		*50 - 200*
13C7 PFUnA	*111*		*50 - 200*
13C2 PFDoA	*110*		*50 - 200*
13C4 PFBA	*106*		*50 - 200*
13C5 PFPeA	*111*		*50 - 200*
13C3 PFBS	*105*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*
13C8 PFOS	*103*		*50 - 200*

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

Lab Sample ID: 380-246175-B-3-A MS
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 264230

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	114		50 - 200
13C2-8:2-FTS	99		50 - 200

Lab Sample ID: 380-246175-C-3-A MSD
Matrix: Water
Analysis Batch: 264343

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 264230

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.1	59.0		ng/L		99	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.1	57.3		ng/L		97	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.1	58.7		ng/L		99	70 - 130	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.1	56.1		ng/L		95	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.1	57.7		ng/L		97	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		59.1	56.8		ng/L		95	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		59.1	54.1		ng/L		92	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		59.1	58.4		ng/L		99	70 - 130	9	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.1	53.3		ng/L		89	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		59.1	59.0		ng/L		99	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		59.1	56.4		ng/L		95	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.1	57.8		ng/L		96	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		59.1	59.2		ng/L		99	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.1	56.9		ng/L		96	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		59.1	56.4		ng/L		95	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.1	60.2		ng/L		102	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.1	57.5		ng/L		97	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.1	58.3		ng/L		96	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.1	54.4		ng/L		92	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.1	69.4		ng/L		117	70 - 130	20	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.1	53.4		ng/L		90	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.1	54.4		ng/L		92	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	<2.0		59.1	55.4		ng/L		94	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.1	58.9		ng/L		100	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.1	55.5		ng/L		93	70 - 130	2	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	78		50 - 200
13C6 PFDA	85		50 - 200
13C5 PFHxA	81		50 - 200
13C4 PFHpA	79		50 - 200
13C8 PFOA	84		50 - 200
13C9 PFNA	82		50 - 200
13C7 PFUnA	95		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	88		50 - 200
13C5 PFPeA	94		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	99		50 - 200

Lab Sample ID: MBL 380-264586/20-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264586

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.37		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1

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

Lab Sample ID: MBL 380-264586/20-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264586

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.37		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0		ng/L		11/10/26 05:43	11/10/26 23:49	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C6 PFDA	*102*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C5 PFHxA	*97*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C4 PFHpA	*95*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C8 PFOA	*102*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C9 PFNA	*107*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C7 PFUnA	*107*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C2 PFDoA	*111*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C4 PFBA	*99*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C5 PFPeA	*101*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C3 PFBS	*107*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C3 PFHxS	*107*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C8 PFOS	*110*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C2-4:2-FTS	*102*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C2-6:2-FTS	*98*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*
13C2-8:2-FTS	*98*		*50 - 200*	*11/10/26 05:43*	*11/10/26 23:49*	*1*

Lab Sample ID: LCS 380-264586/22-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264586

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			59.1	50.5		ng/L		86	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			59.1	54.7		ng/L		93	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			59.1	53.4		ng/L		90	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			59.1	52.5		ng/L		89	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			59.1	56.4		ng/L		95	70 - 130		
Perfluorodecanoic acid (PFDA)			59.1	55.7		ng/L		94	70 - 130		
Perfluorododecanoic acid (PFDoA)			59.1	56.9		ng/L		96	70 - 130		
Perfluoroheptanoic acid (PFHpA)			59.1	56.9		ng/L		96	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			59.1	53.0		ng/L		90	70 - 130		
Perfluorohexanoic acid (PFHxA)			59.1	57.9		ng/L		98	70 - 130		
Perfluorononanoic acid (PFNA)			59.1	56.9		ng/L		96	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			59.1	54.6		ng/L		92	70 - 130		
Perfluorooctanoic acid (PFOA)			59.1	57.8		ng/L		98	70 - 130		

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

Lab Sample ID: LCS 380-264586/22-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264586

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	59.1	55.8		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	57.2		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	53.1		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	55.0		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	55.1		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	55.0		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	59.1	57.0		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	54.2		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	52.1		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	50.9		ng/L		86	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	54.1		ng/L		92	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	59.1	52.2		ng/L		88	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*104*		*50 - 200*
13C6 PFDA	*112*		*50 - 200*
13C5 PFHxA	*103*		*50 - 200*
13C4 PFHpA	*104*		*50 - 200*
13C8 PFOA	*106*		*50 - 200*
13C9 PFNA	*113*		*50 - 200*
13C7 PFUnA	*113*		*50 - 200*
13C2 PFDoA	*116*		*50 - 200*
13C4 PFBA	*108*		*50 - 200*
13C5 PFPeA	*109*		*50 - 200*
13C3 PFBS	*105*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*112*		*50 - 200*
13C2-4:2-FTS	*101*		*50 - 200*
13C2-6:2-FTS	*99*		*50 - 200*
13C2-8:2-FTS	*102*		*50 - 200*

Lab Sample ID: MRL 380-264586/21-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264586

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.81	J	ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	1.92	J	ng/L		98	50 - 150

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

Lab Sample ID: MRL 380-264586/21-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264586

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.97	1.83	J	ng/L		93	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			1.97	1.92	J	ng/L		98	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			1.97	2.04	J	ng/L		104	50 - 150		
Perfluorodecanoic acid (PFDA)			1.97	1.99	J	ng/L		101	50 - 150		
Perfluorododecanoic acid (PFDoA)			1.97	2.16	J	ng/L		110	50 - 150		
Perfluoroheptanoic acid (PFHpA)			1.97	2.01	J	ng/L		102	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			1.97	1.93	J	ng/L		98	50 - 150		
Perfluorohexanoic acid (PFHxA)			1.97	2.15	J	ng/L		109	50 - 150		
Perfluorononanoic acid (PFNA)			1.97	2.00	J	ng/L		102	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			1.97	1.95	J	ng/L		99	50 - 150		
Perfluorooctanoic acid (PFOA)			1.97	2.19	J	ng/L		111	50 - 150		
Perfluoroundecanoic acid (PFUnA)			1.97	1.97	J	ng/L		100	50 - 150		
Perfluorobutanoic acid (PFBA)			1.97	2.10	J	ng/L		107	50 - 150		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			1.97	1.80	J	ng/L		92	50 - 150		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			1.97	1.80	J	ng/L		91	50 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			1.97	1.94	J	ng/L		98	50 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			1.97	2.19	J	ng/L		111	50 - 150		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			1.97	2.03	J	ng/L		103	50 - 150		
Perfluoro-3-methoxypropanoic acid (PFMPA)			1.97	1.89	J	ng/L		96	50 - 150		
Perfluoro-4-methoxybutanoic acid (PFMBA)			1.97	1.99	J	ng/L		101	50 - 150		
Perfluoropentanoic acid (PFPeA)			1.97	2.05	J	ng/L		104	50 - 150		
Perfluoroheptanesulfonic acid (PFHpS)			1.97	1.91	J	ng/L		97	50 - 150		
Perfluoropentanesulfonic acid (PFPeS)			1.97	1.88	J	ng/L		96	50 - 150		

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*94*		*50 - 200*
13C6 PFDA	*108*		*50 - 200*
13C5 PFHxA	*100*		*50 - 200*
13C4 PFHpA	*98*		*50 - 200*
13C8 PFOA	*101*		*50 - 200*
13C9 PFNA	*110*		*50 - 200*
13C7 PFUnA	*110*		*50 - 200*
13C2 PFDoA	*112*		*50 - 200*
13C4 PFBA	*105*		*50 - 200*
13C5 PFPeA	*99*		*50 - 200*
13C3 PFBS	*104*		*50 - 200*
13C3 PFHxS	*105*		*50 - 200*

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

Lab Sample ID: MRL 380-264586/21-A
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264586

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-246991-B-3-A MS
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 264586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.2	51.6		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.2	56.4		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.2	50.0		ng/L		84	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.2	50.3		ng/L		85	70 - 130
Perfluorobutanesulfonic acid (PFBS)	16		59.2	67.8		ng/L		87	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		59.2	56.0		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		59.2	56.0		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	4.0		59.2	57.5		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	13		59.2	66.3		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	14		59.2	68.4		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		59.2	57.6		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.8		59.2	58.5		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	8.8		59.2	63.5		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		59.2	55.1		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	11		59.2	68.0		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.2	52.7		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.2	52.6		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.2	56.4		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.2	54.0		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.2	58.2		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.2	50.3		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.2	51.1		ng/L		86	70 - 130
Perfluoropentanoic acid (PFPeA)	11		59.2	62.1		ng/L		87	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.2	55.1		ng/L		93	70 - 130

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

Lab Sample ID: 380-246991-B-3-A MS
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 264586

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	3.4		59.2	57.8		ng/L		92	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*50 - 200*
13C6 PFDA	*89*		*50 - 200*
13C5 PFHxA	*89*		*50 - 200*
13C4 PFHpA	*88*		*50 - 200*
13C8 PFOA	*86*		*50 - 200*
13C9 PFNA	*87*		*50 - 200*
13C7 PFUnA	*94*		*50 - 200*
13C2 PFDoA	*101*		*50 - 200*
13C4 PFBA	*95*		*50 - 200*
13C5 PFPeA	*106*		*50 - 200*
13C3 PFBS	*104*		*50 - 200*
13C3 PFHxS	*104*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*113*		*50 - 200*
13C2-6:2-FTS	*97*		*50 - 200*
13C2-8:2-FTS	*100*		*50 - 200*

Lab Sample ID: 380-246991-C-3-A MSD
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 264586

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.3	53.0		ng/L		89	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.3	57.3		ng/L		97	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.3	53.5		ng/L		90	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.3	51.7		ng/L		87	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	16		59.3	74.2		ng/L		98	70 - 130	9	30
Perfluorodecanoic acid (PFDA)	<2.0		59.3	59.2		ng/L		100	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		59.3	55.8		ng/L		94	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	4.0		59.3	61.8		ng/L		97	70 - 130	7	30
Perfluorohexanesulfonic acid (PFHxS)	13		59.3	69.0		ng/L		94	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	14		59.3	71.1		ng/L		96	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		59.3	59.4		ng/L		100	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	3.8		59.3	60.3		ng/L		95	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	8.8		59.3	66.6		ng/L		97	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.3	58.1		ng/L		98	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	11		59.3	70.0		ng/L		99	70 - 130	3	30

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

Lab Sample ID: 380-246991-C-3-A MSD
Matrix: Water
Analysis Batch: 264750

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 264586

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.3	55.4		ng/L		93	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.3	56.0		ng/L		94	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.3	56.6		ng/L		96	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.3	59.4		ng/L		100	70 - 130	10	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.3	62.1		ng/L		105	70 - 130	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.3	50.8		ng/L		86	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.3	55.3		ng/L		93	70 - 130	8	30
Perfluoropentanoic acid (PFPeA)	11		59.3	62.8		ng/L		88	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.3	57.6		ng/L		97	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	3.4		59.3	60.2		ng/L		96	70 - 130	4	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*81*		*50 - 200*
13C6 PFDA	*54*		*50 - 200*
13C5 PFHxA	*82*		*50 - 200*
13C4 PFHpA	*77*		*50 - 200*
13C8 PFOA	*73*		*50 - 200*
13C9 PFNA	*63*		*50 - 200*
13C7 PFUnA	*56*		*50 - 200*
13C2 PFDoA	*68*		*50 - 200*
13C4 PFBA	*95*		*50 - 200*
13C5 PFPeA	*106*		*50 - 200*
13C3 PFBS	*103*		*50 - 200*
13C3 PFHxS	*105*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*113*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*101*		*50 - 200*

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

Lab Sample ID: MBL 380-264150/20-A
Matrix: Water
Analysis Batch: 264226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264150

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1

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

Lab Sample ID: MBL 380-264150/20-A
Matrix: Water
Analysis Batch: 264226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 264150

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		11/06/26 16:55	11/07/26 17:08	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*104*		*70 - 130*	*11/06/26 16:55*	*11/07/26 17:08*	*1*
13C2 PFHxA	*104*		*70 - 130*	*11/06/26 16:55*	*11/07/26 17:08*	*1*
13C2 PFDA	*102*		*70 - 130*	*11/06/26 16:55*	*11/07/26 17:08*	*1*
13C3-GenX	*95*		*70 - 130*	*11/06/26 16:55*	*11/07/26 17:08*	*1*

Lab Sample ID: LCS 380-264150/22-A
Matrix: Water
Analysis Batch: 264226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264150

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			49.1	41.4		ng/L		84	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			49.1	49.6		ng/L		101	70 - 130		
Perfluoroundecanoic acid (PFUnA)			49.1	51.2		ng/L		104	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			49.1	46.7		ng/L		95	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			49.1	46.2		ng/L		94	70 - 130		
Perfluorohexanoic acid (PFHxA)			49.1	44.1		ng/L		90	70 - 130		
Perfluorododecanoic acid (PFDoA)			49.1	52.1		ng/L		106	70 - 130		
Perfluorooctanoic acid (PFOA)			49.1	47.4		ng/L		96	70 - 130		
Perfluorodecanoic acid (PFDA)			49.1	49.7		ng/L		101	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			49.1	50.6		ng/L		103	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			49.1	49.0		ng/L		100	70 - 130		
Perfluoroheptanoic acid (PFHpA)			49.1	45.9		ng/L		93	70 - 130		
Perfluorononanoic acid (PFNA)			49.1	49.0		ng/L		100	70 - 130		

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

Lab Sample ID: LCS 380-264150/22-A
Matrix: Water
Analysis Batch: 264226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264150

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTA)	49.1	43.5		ng/L		89	70 - 130
Perfluorotridecanoic acid (PFTrDA)	49.1	55.5		ng/L		113	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.1	50.6		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.1	51.5		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.1	43.2		ng/L		88	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*94*		*70 - 130*
13C2 PFHxA	*93*		*70 - 130*
13C2 PFDA	*100*		*70 - 130*
13C3-GenX	*85*		*70 - 130*

Lab Sample ID: MRL 380-264150/21-A
Matrix: Water
Analysis Batch: 264226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264150

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.96	1.66	J	ng/L		84	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.96	1.96	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.05	J	ng/L		105	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	1.86	J	ng/L		95	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.84	J	ng/L		94	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.83	J	ng/L		93	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	2.12	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	1.92	J	ng/L		98	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	2.06	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	1.91	J	ng/L		97	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	1.91	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	1.88	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.00	J	ng/L		102	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.80	J	ng/L		92	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	2.26	J	ng/L		115	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	1.91	J	ng/L		97	50 - 150

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

Lab Sample ID: MRL 380-264150/21-A
Matrix: Water
Analysis Batch: 264226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 264150

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			1.96	1.85	J	ng/L		94	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			1.96	1.76	J	ng/L		89	50 - 150		

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*94*		*70 - 130*
13C2 PFHxA	*93*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*
13C3-GenX	*85*		*70 - 130*

Lab Sample ID: 380-246483-1 MS
Matrix: Drinking Water
Analysis Batch: 264226

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)
Prep Type: Total/NA
Prep Batch: 264150

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		49.2	44.0		ng/L		89	70 - 130		
Perfluorooctanesulfonic acid (PFOS)	2.8		49.2	52.9		ng/L		102	70 - 130		
Perfluoroundecanoic acid (PFUnA)	<2.0		49.2	50.7		ng/L		103	70 - 130		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.2	48.1		ng/L		98	70 - 130		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		49.2	50.1		ng/L		102	70 - 130		
Perfluorohexanoic acid (PFHxA)	2.9		49.2	48.7		ng/L		93	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		49.2	51.7		ng/L		105	70 - 130		
Perfluorooctanoic acid (PFOA)	2.2		49.2	48.4		ng/L		94	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		49.2	49.9		ng/L		101	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	2.8		49.2	52.6		ng/L		101	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		49.2	50.2		ng/L		99	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		49.2	49.0		ng/L		97	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		49.2	50.0		ng/L		102	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		49.2	37.6		ng/L		76	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		49.2	55.1		ng/L		112	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.2	49.5		ng/L		101	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.2	52.1		ng/L		106	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.2	46.4		ng/L		94	70 - 130		

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

Lab Sample ID: 380-246483-1 MS
Matrix: Drinking Water
Analysis Batch: 264226

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)
Prep Type: Total/NA
Prep Batch: 264150

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	98		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	92		70 - 130

Lab Sample ID: 380-246483-1 MSD
Matrix: Drinking Water
Analysis Batch: 264226

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)
Prep Type: Total/NA
Prep Batch: 264150

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		49.2	46.4		ng/L		94	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	2.8		49.2	51.3		ng/L		99	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		49.2	54.2		ng/L		110	70 - 130	7	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.2	50.4		ng/L		102	70 - 130	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		49.2	51.7		ng/L		105	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	2.9		49.2	51.4		ng/L		98	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		49.2	54.0		ng/L		110	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	2.2		49.2	50.9		ng/L		99	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		49.2	52.3		ng/L		106	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	2.8		49.2	50.8		ng/L		98	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		49.2	48.4		ng/L		96	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		49.2	51.1		ng/L		102	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		49.2	51.6		ng/L		105	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		49.2	39.2		ng/L		80	70 - 130	4	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		49.2	56.2		ng/L		114	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.2	50.0		ng/L		102	70 - 130	1	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.2	51.5		ng/L		105	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.2	48.2		ng/L		98	70 - 130	4	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	101		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	97		70 - 130

LCMS

Prep Batch: 264150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246483-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	537.1 DW	
MBL 380-264150/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-264150/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-264150/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-246483-1 MS	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-246483-1 MSD	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 264226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246483-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	264150
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	EPA 537.1 V2	264150
MBL 380-264150/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	264150
LCS 380-264150/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	264150
MRL 380-264150/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	264150
380-246483-1 MS	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	264150
380-246483-1 MSD	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	264150

Prep Batch: 264230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	533	
MBL 380-264230/19-A	Method Blank	Total/NA	Water	533	
LCS 380-264230/21-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-264230/20-A	Lab Control Sample	Total/NA	Water	533	
380-246175-B-3-A MS	Matrix Spike	Total/NA	Water	533	
380-246175-C-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 264343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	533	264230
MBL 380-264230/19-A	Method Blank	Total/NA	Water	533	264230
LCS 380-264230/21-A	Lab Control Sample	Total/NA	Water	533	264230
MRL 380-264230/20-A	Lab Control Sample	Total/NA	Water	533	264230
380-246175-B-3-A MS	Matrix Spike	Total/NA	Water	533	264230
380-246175-C-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	264230

Prep Batch: 264586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246483-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
MBL 380-264586/20-A	Method Blank	Total/NA	Water	533	
LCS 380-264586/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-264586/21-A	Lab Control Sample	Total/NA	Water	533	
380-246991-B-3-A MS	Matrix Spike	Total/NA	Water	533	
380-246991-C-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 264750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246483-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	264586
MBL 380-264586/20-A	Method Blank	Total/NA	Water	533	264586
LCS 380-264586/22-A	Lab Control Sample	Total/NA	Water	533	264586
MRL 380-264586/21-A	Lab Control Sample	Total/NA	Water	533	264586

LCMS (Continued)

Analysis Batch: 264750 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-246991-B-3-A MS	Matrix Spike	Total/NA	Water	533	264586
380-246991-C-3-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	264586

Lab Chronicle

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-246483-1
Matrix: Drinking Water

Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			264586	XTD8	EA POM	11/10/26 05:43
Total/NA	Analysis	533		1	264750	UKDT	EA POM	11/11/26 02:43
Total/NA	Prep	537.1 DW			264150	E2HD	EA POM	11/06/26 16:55
Total/NA	Analysis	EPA 537.1 V2		1	264226	M7ML	EA POM	11/07/26 17:38

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-246483-2
Matrix: Water

Date Collected: 11/02/26 11:07
Date Received: 11/05/26 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			264230	N8NE	EA POM	11/07/26 16:30
Total/NA	Analysis	533		1	264343	M7ML	EA POM	11/09/26 13:32
Total/NA	Prep	537.1 DW			264150	E2HD	EA POM	11/06/26 16:55
Total/NA	Analysis	EPA 537.1 V2		1	264226	M7ML	EA POM	11/07/26 20:16

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: 380-246483-1
SDG: PFAS: Halawa Wells P1

Laboratory: Eurofins Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-27

Method Summary

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA POM = Eurofins Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Sample Summary

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

Job ID: 380-246483-1
SDG: PFAS: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-246483-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	11/02/26 11:07	11/05/26 10:20	Hawaii
380-246483-2	FB: HALAWA WELLS P1 (331-023-WL065)	Water	11/02/26 11:07	11/05/26 10:20	Hawaii

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No:
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5840 (tel)	PO #: C20525101 exp 05312023			
Email: kiwamoto@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

380-246483 COC

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, 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		
Halawa Wells P1 (331-023-WL065)	2-Nov-2026	1107	G	Water							3	3		
FB: Halawa Wells P1 (331-023-WL065)	2-Nov-2026	1107									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: 8797 4306 4914
[redacted]	Date/Time: 04 November 2026 1400	Company: HBWS	Received by: 1401
	Date/Time:	Company	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Date/Time: 11/5/26 10:20	Company: FedEx
Date/Time:	Company
Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 6184 / 3.0 -0.1 = 2.9 GR

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-246483-1
SDG Number: PFAS: Halawa Wells P1

Login Number: 246483
List Number: 1
Creator: Del Rosario, Michael

List Source: Eurofins Pomona

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