eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/5/2026 5:13:20 PM

JOB DESCRIPTION

RED-HILL
PFAS: Ka'amilo Wells P1

JOB NUMBER

380-190146-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Job Notes

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

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

Compliance Statement

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

Authorization

Generated
1/5/2026 5:13:20 PM

Authorized for release by
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1100

Table of Contents

Definitions/Glossary

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo 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
380-190146-1

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 12/31/2025 9:57 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°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:Ka'amilo Wells P1 (380-190146-1). (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: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 — Lab Sample ID: 380-190146-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	3.3		2.0		ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.8		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.5		2.0		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.0		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.5		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	4.5		2.0		ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	4.5		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0		ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.5		2.0		ng/L	1		537.1	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1 — Lab Sample ID: 380-190146-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1

Date Collected: 12/29/25 11:57
Date Received: 12/31/25 09:57

Lab Sample ID: 380-190146-1

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorohexanesulfonic acid (PFHxS)	**3.5**		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorohexanoic acid (PFHxA)	**3.8**		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorooctanesulfonic acid (PFOS)	**4.5**		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorooctanoic acid (PFOA)	**4.0**		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoropentanoic acid (PFPeA)	**4.0**		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 16:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*69*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C6 PFDA	*88*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C5 PFHxA	*81*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C4 PFHpA	*84*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C8 PFOA	*85*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C9 PFNA	*86*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C7 PFUnA	*91*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C2 PFDoA	*92*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C4 PFBA	*88*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C5 PFPeA	*92*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*
13C3 PFBS	*96*		*50 - 200*	*01/02/26 17:53*	*01/03/26 16:54*	*1*

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-190146-1

Date Collected: 12/29/25 11:57
Matrix: Water
Date Received: 12/31/25 09:57

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	101		50 - 200	01/02/26 17:53	01/03/26 16:54	1
13C8 PFOS	107		50 - 200	01/02/26 17:53	01/03/26 16:54	1
13C2-4:2-FTS	128		50 - 200	01/02/26 17:53	01/03/26 16:54	1
13C2-6:2-FTS	117		50 - 200	01/02/26 17:53	01/03/26 16:54	1
13C2-8:2-FTS	108		50 - 200	01/02/26 17:53	01/03/26 16:54	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorooctanesulfonic acid (PFOS)	**5.5**		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorohexanoic acid (PFHxA)	**4.5**		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorooctanoic acid (PFOA)	**4.5**		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorohexanesulfonic acid (PFHxS)	**3.9**		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	118		70 - 130	01/02/26 02:20	01/02/26 18:34	1
13C2 PFHxA	127		70 - 130	01/02/26 02:20	01/02/26 18:34	1
13C2 PFDA	108		70 - 130	01/02/26 02:20	01/02/26 18:34	1
13C3-GenX	118		70 - 130	01/02/26 02:20	01/02/26 18:34	1

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-190146-2

Date Collected: 12/29/25 11:57
Matrix: Water
Date Received: 12/31/25 09:57

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		01/02/26 17:53	01/03/26 17:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1

Client Sample ID: FB: Ka'amilo Wells P1

Date Collected: 12/29/25 11:57
Date Received: 12/31/25 09:57

Lab Sample ID: 380-190146-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		01/02/26 17:53	01/03/26 17:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C6 PFDA	*100*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C5 PFHxA	*107*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C4 PFHpA	*102*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C8 PFOA	*104*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C9 PFNA	*101*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C7 PFUnA	*103*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C2 PFDoA	*102*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C4 PFBA	*100*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C5 PFPeA	*109*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C3 PFBS	*99*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C3 PFHxS	*100*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C8 PFOS	*103*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C2-4:2-FTS	*117*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C2-6:2-FTS	*112*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*
13C2-8:2-FTS	*105*		*50 - 200*	*01/02/26 17:53*	*01/03/26 17:04*	*1*

Client Sample ID: FB: Ka'amilo Wells P1

Date Collected: 12/29/25 11:57
Date Received: 12/31/25 09:57

Lab Sample ID: 380-190146-2

Matrix: Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		01/02/26 02:20	01/02/26 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*105*		*70 - 130*	*01/02/26 02:20*	*01/02/26 18:54*	*1*
13C2 PFHxA	*113*		*70 - 130*	*01/02/26 02:20*	*01/02/26 18:54*	*1*
13C2 PFDA	*112*		*70 - 130*	*01/02/26 02:20*	*01/02/26 18:54*	*1*
13C3-GenX	*104*		*70 - 130*	*01/02/26 02:20*	*01/02/26 18:54*	*1*

Action Limit Summary

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 — Lab Sample ID: 380-190146-1

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)	3.5		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	**4.5**		ng/L	**4**	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	**5.5**		ng/L	**4**	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	**4.5**		ng/L	**4**	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1 — Lab Sample ID: 380-190146-2

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	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Surrogate Summary

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

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)
380-190078-B-1-A MS	Matrix Spike	106	118	109	109
380-190078-C-1-A MSD	Matrix Spike Duplicate	113	114	108	109
380-190146-1	Ka'amilo Wells P1	118	127	108	118
380-190146-2	FB: Ka'amilo Wells P1	105	113	112	104
LCS 380-195448/22-A	Lab Control Sample	102	105	107	95
MBL 380-195448/20-A	Method Blank	106	110	111	104
MRL 380-195448/21-A	Lab Control Sample	110	119	109	109

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: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

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

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-189915-B-1-A MS	Matrix Spike	95	104	106	103	106	107	105	104
380-189915-B-1-B MSD	Matrix Spike Duplicate	91	101	99	96	103	100	98	100
380-190146-1	Ka'amilo Wells P1	69	88	81	84	85	86	91	92
380-190146-2	FB: Ka'amilo Wells P1	87	100	107	102	104	101	103	102
LCS 380-195601/22-A	Lab Control Sample	94	107	107	102	103	105	104	105
MBL 380-195601/20-A	Method Blank	89	103	104	101	105	106	100	102
MRL 380-195601/21-A	Lab Control Sample	89	100	106	101	100	106	101	103

		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)
380-189915-B-1-A MS	Matrix Spike	101	102	100	103	103	111	109	107
380-189915-B-1-B MSD	Matrix Spike Duplicate	103	103	99	101	102	112	114	105
380-190146-1	Ka'amilo Wells P1	88	92	96	101	107	128	117	108
380-190146-2	FB: Ka'amilo Wells P1	100	109	99	100	103	117	112	105
LCS 380-195601/22-A	Lab Control Sample	99	99	103	100	102	109	106	105
MBL 380-195601/20-A	Method Blank	103	105	95	107	105	120	114	107
MRL 380-195601/21-A	Lab Control Sample	104	103	100	101	104	112	112	108

Surrogate Legend

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

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

Lab Sample ID: MBL 380-195601/20-A
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195601

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		01/02/26 17:53	01/03/26 13:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		01/02/26 17:53	01/03/26 13:24	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*89*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C6 PFDA	*103*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C5 PFHxA	*104*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C4 PFHpA	*101*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C8 PFOA	*105*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C9 PFNA	*106*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C7 PFUnA	*100*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C2 PFDoA	*102*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C4 PFBA	*103*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C5 PFPeA	*105*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C3 PFBS	*95*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*
13C3 PFHxS	*107*		*50 - 200*	*01/02/26 17:53*	*01/03/26 13:24*	*1*

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

Lab Sample ID: MBL 380-195601/20-A
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195601

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	105		50 - 200	01/02/26 17:53	01/03/26 13:24	1
13C2-4:2-FTS	120		50 - 200	01/02/26 17:53	01/03/26 13:24	1
13C2-6:2-FTS	114		50 - 200	01/02/26 17:53	01/03/26 13:24	1
13C2-8:2-FTS	107		50 - 200	01/02/26 17:53	01/03/26 13:24	1

Lab Sample ID: LCS 380-195601/22-A
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	101		ng/L		84	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	107		ng/L		89	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	111		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	120	109		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	120	110		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	106		ng/L		88	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	108		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	120	111		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	120	110		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	110		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	120	114		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	112		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	110		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	117		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	114		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	115		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	116		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	97.1		ng/L		81	70 - 130
Perfluoropentanoic acid (PFPeA)	120	119		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	115		ng/L		95	70 - 130

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

Lab Sample ID: LCS 380-195601/22-A
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195601

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	110		ng/L		91	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*94*		*50 - 200*
13C6 PFDA	*107*		*50 - 200*
13C5 PFHxA	*107*		*50 - 200*
13C4 PFHpA	*102*		*50 - 200*
13C8 PFOA	*103*		*50 - 200*
13C9 PFNA	*105*		*50 - 200*
13C7 PFUnA	*104*		*50 - 200*
13C2 PFDoA	*105*		*50 - 200*
13C4 PFBA	*99*		*50 - 200*
13C5 PFPeA	*99*		*50 - 200*
13C3 PFBS	*103*		*50 - 200*
13C3 PFHxS	*100*		*50 - 200*
13C8 PFOS	*102*		*50 - 200*
13C2-4:2-FTS	*109*		*50 - 200*
13C2-6:2-FTS	*106*		*50 - 200*
13C2-8:2-FTS	*105*		*50 - 200*

Lab Sample ID: MRL 380-195601/21-A
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195601

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.01	1.87	J	ng/L		93	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.01	2.01	J	ng/L		100	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.01	1.87	J	ng/L		93	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.01	2.05	J	ng/L		102	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.01	2.01	J	ng/L		100	50 - 150		
Perfluorodecanoic acid (PFDA)			2.01	2.09	J	ng/L		104	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.01	2.06	J	ng/L		102	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.01	2.02	J	ng/L		100	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.01	1.95	J	ng/L		97	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.01	1.92	J	ng/L		95	50 - 150		
Perfluorononanoic acid (PFNA)			2.01	1.97	J	ng/L		98	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.01	1.95	J	ng/L		97	50 - 150		
Perfluorooctanoic acid (PFOA)			2.01	2.08	J	ng/L		104	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.01	2.05	J	ng/L		102	50 - 150		
Perfluorobutanoic acid (PFBA)			2.01	2.06	J	ng/L		103	50 - 150		

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

Lab Sample ID: MRL 380-195601/21-A
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195601

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.10	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.17	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.08	J	ng/L		104	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	2.28	J	ng/L		113	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.90	J	ng/L		95	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.61	J	ng/L		80	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.96	J	ng/L		98	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.93	J	ng/L		96	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*89*		*50 - 200*
13C6 PFDA	*100*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*101*		*50 - 200*
13C8 PFOA	*100*		*50 - 200*
13C9 PFNA	*106*		*50 - 200*
13C7 PFUnA	*101*		*50 - 200*
13C2 PFDoA	*103*		*50 - 200*
13C4 PFBA	*104*		*50 - 200*
13C5 PFPeA	*103*		*50 - 200*
13C3 PFBS	*100*		*50 - 200*
13C3 PFHxS	*101*		*50 - 200*
13C8 PFOS	*104*		*50 - 200*
13C2-4:2-FTS	*112*		*50 - 200*
13C2-6:2-FTS	*112*		*50 - 200*
13C2-8:2-FTS	*108*		*50 - 200*

Lab Sample ID: 380-189915-B-1-A MS
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195601

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	56.0		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	56.8		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	60.0		ng/L		100	70 - 130

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

Lab Sample ID: 380-189915-B-1-A MS
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195601

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		60.2	57.7		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	61.9		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	59.1		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.9		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	56.8		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	56.9		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	57.3		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	56.8		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	57.7		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	59.0		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	57.9		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	59.2		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	57.6		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	61.4		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.5		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	53.7		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	67.1		ng/L		111	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.9		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	48.1		ng/L		80	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	59.3		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.6		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	58.4		ng/L		97	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*95*		*50 - 200*
13C6 PFDA	*104*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*103*		*50 - 200*
13C8 PFOA	*106*		*50 - 200*
13C9 PFNA	*107*		*50 - 200*
13C7 PFUnA	*105*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*101*		*50 - 200*
13C5 PFPeA	*102*		*50 - 200*
13C3 PFBS	*100*		*50 - 200*
13C3 PFHxS	*103*		*50 - 200*
13C8 PFOS	*103*		*50 - 200*

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

Lab Sample ID: 380-189915-B-1-A MS
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195601

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	111		50 - 200
13C2-6:2-FTS	109		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: 380-189915-B-1-B MSD
Matrix: Water
Analysis Batch: 195630

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 195601

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	55.0		ng/L		91	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	57.3		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.0		ng/L		96	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	58.7		ng/L		97	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	60.2		ng/L		99	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	57.9		ng/L		96	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.6		ng/L		97	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	58.6		ng/L		97	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	59.3		ng/L		97	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	58.0		ng/L		95	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	59.3		ng/L		98	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	57.9		ng/L		93	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	57.4		ng/L		95	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.5		ng/L		99	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	58.3		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.4		ng/L		100	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	61.6		ng/L		102	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	58.9		ng/L		98	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	60.7		ng/L		101	70 - 130	12	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	68.2		ng/L		113	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	56.0		ng/L		93	70 - 130	7	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	47.8		ng/L		79	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	55.8		ng/L		91	70 - 130	6	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.2		ng/L		100	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	58.0		ng/L		96	70 - 130	1	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	91		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	103		50 - 200
13C3 PFBS	99		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	114		50 - 200
13C2-8:2-FTS	105		50 - 200

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 380-195448/20-A
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195448

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		01/02/26 02:20	01/02/26 16:04	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		01/02/26 02:20	01/02/26 16:04	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130	01/02/26 02:20	01/02/26 16:04	1
13C2 PFHxA	110		70 - 130	01/02/26 02:20	01/02/26 16:04	1
13C2 PFDA	111		70 - 130	01/02/26 02:20	01/02/26 16:04	1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MBL 380-195448/20-A
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195448

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	104		70 - 130	01/02/26 02:20	01/02/26 16:04	1

Lab Sample ID: LCS 380-195448/22-A
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	22.1		ng/L		88	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.1	27.0		ng/L		108	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	26.0		ng/L		104	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	24.4		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	23.9		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	24.7		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	25.9		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	24.8		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	24.4		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	28.2		ng/L		113	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	28.6		ng/L		114	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	24.8		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	25.1	25.4		ng/L		102	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	22.5		ng/L		90	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	26.3		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	26.4		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	24.4		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	22.9		ng/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	95		70 - 130

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MRL 380-195448/21-A
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195448

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.04	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.22	J	ng/L		110	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.25	J	ng/L		112	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.07	J	ng/L		103	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.16	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.14	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.18	J	ng/L		109	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.19	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.25	J	ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.18	J	ng/L		108	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.51	J	ng/L		75	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.11	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.06	J	ng/L		102	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.78	J	ng/L		88	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.11	J	ng/L		105	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*110*		*70 - 130*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*109*		*70 - 130*
13C3-GenX	*109*		*70 - 130*

Lab Sample ID: 380-190078-B-1-A MS
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	24.6		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	26.6		ng/L		106	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.0		ng/L		104	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.5		ng/L		97	70 - 130

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-190078-B-1-A MS
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	25.6		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	27.0		ng/L		108	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	26.9		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	25.8		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.2		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.4		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	27.4		ng/L		109	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	26.4		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	26.6		ng/L		106	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	22.2		ng/L		88	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	26.9		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	25.7		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	23.3		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	26.0		ng/L		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*106*		*70 - 130*
13C2 PFHxA	*118*		*70 - 130*
13C2 PFDA	*109*		*70 - 130*
13C3-GenX	*109*		*70 - 130*

Lab Sample ID: 380-190078-C-1-A MSD
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 195448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	24.7		ng/L		98	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.3		ng/L		109	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.9		ng/L		107	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.3		ng/L		105	70 - 130	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.9		ng/L		111	70 - 130	9	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.9		ng/L		107	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.2		ng/L		108	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	27.1		ng/L		108	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.9		ng/L		103	70 - 130	3	30

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-190078-C-1-A MSD
Matrix: Water
Analysis Batch: 195551

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 195448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	28.4		ng/L		113	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	29.1		ng/L		116	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.2		ng/L		109	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.2		ng/L		108	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	23.4		ng/L		93	70 - 130	5	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	27.7		ng/L		110	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.7		ng/L		106	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	23.9		ng/L		95	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	26.4		ng/L		105	70 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*113*		*70 - 130*
13C2 PFHxA	*114*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*
13C3-GenX	*109*		*70 - 130*

QC Association Summary

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

LCMS

Prep Batch: 195448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-190146-1	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-190146-2	FB: Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
MBL 380-195448/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-195448/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-195448/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-190078-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-190078-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 195551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-190146-1	Ka'amilo Wells P1	Total/NA	Water	537.1	195448
380-190146-2	FB: Ka'amilo Wells P1	Total/NA	Water	537.1	195448
MBL 380-195448/20-A	Method Blank	Total/NA	Water	537.1	195448
LCS 380-195448/22-A	Lab Control Sample	Total/NA	Water	537.1	195448
MRL 380-195448/21-A	Lab Control Sample	Total/NA	Water	537.1	195448
380-190078-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	195448
380-190078-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	195448

Prep Batch: 195601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-190146-1	Ka'amilo Wells P1	Total/NA	Water	533	
380-190146-2	FB: Ka'amilo Wells P1	Total/NA	Water	533	
MBL 380-195601/20-A	Method Blank	Total/NA	Water	533	
LCS 380-195601/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-195601/21-A	Lab Control Sample	Total/NA	Water	533	
380-189915-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-189915-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 195630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-190146-1	Ka'amilo Wells P1	Total/NA	Water	533	195601
380-190146-2	FB: Ka'amilo Wells P1	Total/NA	Water	533	195601
MBL 380-195601/20-A	Method Blank	Total/NA	Water	533	195601
LCS 380-195601/22-A	Lab Control Sample	Total/NA	Water	533	195601
MRL 380-195601/21-A	Lab Control Sample	Total/NA	Water	533	195601
380-189915-B-1-A MS	Matrix Spike	Total/NA	Water	533	195601
380-189915-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	195601

Lab Chronicle

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1

Date Collected: 12/29/25 11:57
Date Received: 12/31/25 09:57

Lab Sample ID: 380-190146-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			195601	N8NE	EA POM	01/02/26 17:53
Total/NA	Analysis	533		1	195630	SZ9R	EA POM	01/03/26 16:54
Total/NA	Prep	537.1 DW			195448	G9MN	EA POM	01/02/26 02:20
Total/NA	Analysis	537.1		1	195551	SZ9R	EA POM	01/02/26 18:34

Client Sample ID: FB: Ka'amilo Wells P1

Date Collected: 12/29/25 11:57
Date Received: 12/31/25 09:57

Lab Sample ID: 380-190146-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			195601	N8NE	EA POM	01/02/26 17:53
Total/NA	Analysis	533		1	195630	SZ9R	EA POM	01/03/26 17:04
Total/NA	Prep	537.1 DW			195448	G9MN	EA POM	01/02/26 02:20
Total/NA	Analysis	537.1		1	195551	SZ9R	EA POM	01/02/26 18:54

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: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Laboratory: Eurofins Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-26

Method Summary

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

Job ID: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	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: 380-190146-1
SDG: PFAS: Ka'amilo Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-190146-1	Ka'amilo Wells P1	Water	12/29/25 11:57	12/31/25 09:57	Hawaii
380-190146-2	FB: Ka'amilo Wells P1	Water	12/29/25 11:57	12/31/25 09:57	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: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757.2
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:	
City: Honolulu	TAT Requested (days): RUSH	
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

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		
Ka'amilo Wells P1	29-Dec-2025	1157	G	Water							3	3		
FB: Ka'amilo Wells P1	29-Dec-2025	1157		Water							1	1		

380-190146 COC

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FedEx 1Z8752222134[redacted]		
[redacted]	Date/Time: 30 Dec 2025 1400	Company: HBWS	Received by: Mark Urrutia	Date/Time: 12/31/25 957	Company: EEAP
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (63/A) 1-3+0.0 1-3 gel-frozen

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-190146-1
SDG Number: PFAS: Ka'amilo Wells P1

Login Number: 190146
List Number: 1
Creator: Hernandez, Orlando

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	