

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
PFAS: Ka'amilo Wells P2

JOB NUMBER

380-189503-1

Eurofins Pomona

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



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

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Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	11
Surrogate Summary	12
Isotope Dilution Summary	13
QC Sample Results	14
QC Association Summary	31
Lab Chronicle	33
Certification Summary	34
Method Summary	35
Sample Summary	36
Chain of Custody	37
Receipt Checklists	39

Definitions/Glossary

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Case Narrative

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

Job ID: 380-189503-1

Job ID: 380-189503-1

Eurofins Pomona

Job Narrative 380-189503-1

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 12/24/2025 10:37 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 0.7°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 P2 (380-189503-1). (XWB4)

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

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Detection Summary

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-189503-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	4.0		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.7		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.2		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.0		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	4.1		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.0		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.4		2.0	ng/L	1		537.1	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-189503-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pomona

Client Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-189503-1

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorobutanesulfonic acid (PFBS)	3.2		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorohexanoic acid (PFHxA)	4.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorooctanesulfonic acid (PFOS)	4.7		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorooctanoic acid (PFOA)	4.2		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoropentanoic acid (PFPeA)	4.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/31/25 14:25	01/02/26 09:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	72		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C6 PFDA	60		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C5 PFHxA	76		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C4 PFHpA	76		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C8 PFOA	72		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C9 PFNA	68		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C7 PFUnA	60		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C2 PFDoA	65		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C4 PFBA	86		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C5 PFPeA	84		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C3 PFBS	100		50 - 200	12/31/25 14:25	01/02/26 09:07	1

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Client Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-189503-1

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	100		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C8 PFOS	105		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C2-4:2-FTS	102		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C2-6:2-FTS	103		50 - 200	12/31/25 14:25	01/02/26 09:07	1
13C2-8:2-FTS	97		50 - 200	12/31/25 14:25	01/02/26 09:07	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		12/29/25 06:00	12/30/25 09:43	1
Perfluorooctanesulfonic acid (PFOS)	5.3		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorohexanoic acid (PFHxA)	4.1		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorooctanoic acid (PFOA)	4.6		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorohexanesulfonic acid (PFHxS)	4.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorobutanesulfonic acid (PFBS)	3.4		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluoroheptanoic acid (PFHpA)	2.2		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105		70 - 130	12/29/25 06:00	12/30/25 09:43	1
13C2 PFHxA	107		70 - 130	12/29/25 06:00	12/30/25 09:43	1
13C2 PFDA	111		70 - 130	12/29/25 06:00	12/30/25 09:43	1
13C3-GenX	103		70 - 130	12/29/25 06:00	12/30/25 09:43	1

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-189503-2

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1

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Client Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-189503-2

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

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		12/28/25 14:25	12/29/25 22:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C6 PFDA	99		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C5 PFHxA	103		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C4 PFHpA	102		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C8 PFOA	102		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C9 PFNA	106		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C7 PFUnA	101		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C2 PFDoA	102		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C4 PFBA	110		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C5 PFPeA	104		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C3 PFBS	110		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C3 PFHxS	105		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C8 PFOS	105		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C2-4:2-FTS	121		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C2-6:2-FTS	110		50 - 200	12/28/25 14:25	12/29/25 22:20	1
13C2-8:2-FTS	108		50 - 200	12/28/25 14:25	12/29/25 22:20	1

Client Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-189503-2

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

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		12/29/25 06:00	12/30/25 09:52	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 09:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			12/29/25 06:00	12/30/25 09:52	1
13C2 PFHxA	104		70 - 130			12/29/25 06:00	12/30/25 09:52	1
13C2 PFDA	108		70 - 130			12/29/25 06:00	12/30/25 09:52	1
13C3-GenX	101		70 - 130			12/29/25 06:00	12/30/25 09:52	1

Action Limit Summary

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-189503-1

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	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.7		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	4.2		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)	5.3		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.0		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 P2

Lab Sample ID: 380-189503-2

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	RL	Method	Prep Type
				Limit			
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: 380-189503-1
 SDG: PFAS: Ka'amilo Wells P2

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-189503-1	Ka'amilo Wells P2	105	107	111	103
380-189503-2	FB: Ka'amilo Wells P2	103	104	108	101
380-189551-B-1-A MS	Matrix Spike	104	111	110	109
380-189551-C-1-A MSD	Matrix Spike Duplicate	104	111	108	106
LCS 380-194808/22-A	Lab Control Sample	93	102	108	95
MBL 380-194808/20-A	Method Blank	108	105	108	98
MRL 380-194808/21-A	Lab Control Sample	99	101	103	100

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: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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)
380-188906-B-1-A MS	Matrix Spike	99	105	104	103	103	102	101	108
380-188906-C-1-A MSD	Matrix Spike Duplicate	99	105	109	104	105	107	106	105
380-189503-1	Ka'amilo Wells P2	72	60	76	76	72	68	60	65
380-189503-2	FB: Ka'amilo Wells P2	88	99	103	102	102	106	101	102
380-189556-B-1-A MS	Matrix Spike	102	102	104	105	106	107	106	103
380-189556-C-1-A MSD	Matrix Spike Duplicate	98	99	98	99	102	103	103	105
LCS 380-194747/24-A	Lab Control Sample	96	105	102	107	105	105	100	106
LCS 380-195303/22-A	Lab Control Sample	88	95	94	95	97	99	98	98
MBL 380-194747/22-A	Method Blank	88	97	100	100	105	103	100	100
MBL 380-195303/20-A	Method Blank	94	105	107	102	102	107	106	108
MRL 380-194747/23-A	Lab Control Sample	90	106	111	106	105	106	103	108
MRL 380-195303/21-A	Lab Control Sample	90	96	95	99	100	97	100	101

		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)
380-188906-B-1-A MS	Matrix Spike	108	111	105	104	104	123	108	107
380-188906-C-1-A MSD	Matrix Spike Duplicate	108	111	116	112	113	118	116	113
380-189503-1	Ka'amilo Wells P2	86	84	100	100	105	102	103	97
380-189503-2	FB: Ka'amilo Wells P2	110	104	110	105	105	121	110	108
380-189556-B-1-A MS	Matrix Spike	106	106	106	97	106	102	100	96
380-189556-C-1-A MSD	Matrix Spike Duplicate	99	98	103	99	102	99	100	95
LCS 380-194747/24-A	Lab Control Sample	109	106	107	110	108	112	115	105
LCS 380-195303/22-A	Lab Control Sample	93	91	100	101	104	102	102	95
MBL 380-194747/22-A	Method Blank	107	105	111	106	108	124	112	108
MBL 380-195303/20-A	Method Blank	102	102	106	103	102	118	116	110
MRL 380-194747/23-A	Lab Control Sample	112	111	115	107	110	124	110	110
MRL 380-195303/21-A	Lab Control Sample	96	97	101	103	104	108	106	100

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

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MBL 380-194747/22-A
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194747

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C6 PFDA	97		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C5 PFHxA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C4 PFHpA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C8 PFOA	105		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C9 PFNA	103		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C7 PFUnA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2 PFDoA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C4 PFBA	107		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C5 PFPeA	105		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C3 PFBS	111		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C3 PFHxS	106		50 - 200	12/28/25 14:25	12/29/25 18:53	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MBL 380-194747/22-A
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194747

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	108		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2-4:2-FTS	124		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2-6:2-FTS	112		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2-8:2-FTS	108		50 - 200	12/28/25 14:25	12/29/25 18:53	1

Lab Sample ID: LCS 380-194747/24-A
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194747

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	55.4		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	56.5		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.4	57.0		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	57.3		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	58.7		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	58.3		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	56.9		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.4	58.2		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	55.3		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	59.8		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	60.4	58.1		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	57.2		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	59.4		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	58.0		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	57.3		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	60.5		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	58.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	56.8		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.4	56.2		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.4	56.3		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	61.9		ng/L		103	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	60.5		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	59.9		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	58.6		ng/L		97	70 - 130

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: LCS 380-194747/24-A
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.4	54.0		ng/L		90	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	96		50 - 200				
13C6 PFDA	105		50 - 200				
13C5 PFHxA	102		50 - 200				
13C4 PFHpA	107		50 - 200				
13C8 PFOA	105		50 - 200				
13C9 PFNA	105		50 - 200				
13C7 PFUnA	100		50 - 200				
13C2 PFDoA	106		50 - 200				
13C4 PFBA	109		50 - 200				
13C5 PFPeA	106		50 - 200				
13C3 PFBS	107		50 - 200				
13C3 PFHxS	110		50 - 200				
13C8 PFOS	108		50 - 200				
13C2-4:2-FTS	112		50 - 200				
13C2-6:2-FTS	115		50 - 200				
13C2-8:2-FTS	105		50 - 200				

Lab Sample ID: MRL 380-194747/23-A
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194747

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.80	J	ng/L		89	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.72	J	ng/L		86	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.91	J	ng/L		95	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.85	J	ng/L		92	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.78	J	ng/L		89	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.87	J	ng/L		93	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.96	J	ng/L		98	50 - 150

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QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MRL 380-194747/23-A
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194747

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.04	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	1.96	J	ng/L		98	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.19	J	ng/L		109	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.82	J	ng/L		91	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.72	J	ng/L		86	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.88	J	ng/L		93	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.99	J	ng/L		99	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	106		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	110		50 - 200
13C2-4:2-FTS	124		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	110		50 - 200

Lab Sample ID: 380-188906-B-1-A MS
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194747

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	55.9		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	57.7		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.6		ng/L		97	70 - 130

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QC Sample Results

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

Job ID: 380-189503-1
 SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: 380-188906-B-1-A MS
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194747

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.2	59.9		ng/L		99	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	57.3		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	58.4		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.8		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	58.0		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	58.7		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	57.1		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	60.9		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	57.8		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	58.5		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	62.7		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	57.0		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.0		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	60.9		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.2		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	53.8		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	58.6		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	58.7		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.4		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.5		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	59.8		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	59.3		ng/L		98	70 - 130

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	101		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	104		50 - 200

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: 380-188906-B-1-A MS
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194747

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: 380-188906-C-1-A MSD
Matrix: Water
Analysis Batch: 194911

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 194747

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	55.2		ng/L		92	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	57.1		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	57.7		ng/L		96	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	59.3		ng/L		99	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	56.7		ng/L		94	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	56.7		ng/L		94	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.8		ng/L		101	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	59.5		ng/L		99	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	57.7		ng/L		96	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	54.0		ng/L		90	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	57.7		ng/L		96	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	57.4		ng/L		95	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	59.4		ng/L		99	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.8		ng/L		99	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	60.7		ng/L		101	70 - 130	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	61.0		ng/L		101	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	62.6		ng/L		104	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	59.8		ng/L		99	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	52.7		ng/L		87	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	57.2		ng/L		95	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.4		ng/L		99	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	60.0		ng/L		100	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.5		ng/L		95	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	58.5		ng/L		97	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	57.5		ng/L		95	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

<i>Isotope Dilution</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	116		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	118		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	113		50 - 200

Lab Sample ID: MBL 380-195303/20-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195303

<i>Analyte</i>	<i>MBL</i>	<i>MBL</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1

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QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MBL 380-195303/20-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 195303

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		12/31/25 14:25	01/02/26 08:08	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C6 PFDA	105		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C5 PFHxA	107		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C4 PFHpA	102		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C8 PFOA	102		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C9 PFNA	107		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C7 PFUnA	106		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C2 PFDoA	108		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C4 PFBA	102		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C5 PFPeA	102		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C3 PFBS	106		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C3 PFHxS	103		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C8 PFOS	102		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C2-4:2-FTS	118		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C2-6:2-FTS	116		50 - 200	12/31/25 14:25	01/02/26 08:08	1
13C2-8:2-FTS	110		50 - 200	12/31/25 14:25	01/02/26 08:08	1

Lab Sample ID: LCS 380-195303/22-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	57.7		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	60.5		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	60.1		ng/L		100	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	60.3		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	63.2		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	64.1		ng/L		106	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	63.6		ng/L		106	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	62.7		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	62.8		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	62.0		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	60.2	64.3		ng/L		107	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	61.1		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	59.9		ng/L		99	70 - 130

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QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: LCS 380-195303/22-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.2	60.8		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	62.4		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	67.9		ng/L		113	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	62.4		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	63.8		ng/L		106	70 - 130
Nonafluoro-3,6-dioxiheptanoic acid (NFDHA)	60.2	57.3		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.2	61.2		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	60.9		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	63.6		ng/L		106	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	62.1		ng/L		103	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	61.3		ng/L		102	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	61.6		ng/L		102	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	95		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	95		50 - 200
13C8 PFOA	97		50 - 200
13C9 PFNA	99		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	98		50 - 200
13C4 PFBA	93		50 - 200
13C5 PFPeA	91		50 - 200
13C3 PFBS	100		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	95		50 - 200

Lab Sample ID: MRL 380-195303/21-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.85	J	ng/L		92	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.91	J	ng/L		95	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MRL 380-195303/21-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.00	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.10	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.06	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.09	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.33	J	ng/L		116	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.13	J	ng/L		106	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.04	J	ng/L		102	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.87	J	ng/L		93	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.92	J	ng/L		96	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	95		50 - 200
13C4 PFHpA	99		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	97		50 - 200
13C7 PFUnA	100		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	96		50 - 200
13C5 PFPeA	97		50 - 200
13C3 PFBS	101		50 - 200
13C3 PFHxS	103		50 - 200

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MRL 380-195303/21-A
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 195303

<i>Isotope Dilution</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	108		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	100		50 - 200

Lab Sample ID: 380-189556-B-1-A MS
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	116		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	118		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	118		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	117		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	115		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	122		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	121		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	121		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	125		ng/L		103	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	124		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	117		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	120		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	117		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	120		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	122		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	121		ng/L		100	70 - 130
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	115		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	112		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	120		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	120		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	121		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	115		ng/L		95	70 - 130

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: 380-189556-B-1-A MS
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	127		ng/L		105	70 - 130
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	102		50 - 200						
13C6 PFDA	102		50 - 200						
13C5 PFHxA	104		50 - 200						
13C4 PFHpA	105		50 - 200						
13C8 PFOA	106		50 - 200						
13C9 PFNA	107		50 - 200						
13C7 PFUnA	106		50 - 200						
13C2 PFDoA	103		50 - 200						
13C4 PFBA	106		50 - 200						
13C5 PFPeA	106		50 - 200						
13C3 PFBS	106		50 - 200						
13C3 PFHxS	97		50 - 200						
13C8 PFOS	106		50 - 200						
13C2-4:2-FTS	102		50 - 200						
13C2-6:2-FTS	100		50 - 200						
13C2-8:2-FTS	96		50 - 200						

Lab Sample ID: 380-189556-C-1-A MSD
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 195303

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	114		ng/L		94	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	117		ng/L		97	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	119		ng/L		99	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	119		ng/L		99	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	123		ng/L		101	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		121	123		ng/L		102	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	117		ng/L		97	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	124		ng/L		102	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	122		ng/L		100	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	122		ng/L		100	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		121	120		ng/L		100	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	122		ng/L		100	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		121	117		ng/L		96	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	124		ng/L		103	70 - 130	6	30
Perfluorobutanoic acid (PFBA)	<2.0		121	122		ng/L		101	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: 380-189556-C-1-A MSD
Matrix: Water
Analysis Batch: 195464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 195303

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		121	121		ng/L		100	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	121		ng/L		100	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	118		ng/L		98	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	115		ng/L		95	70 - 130	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	117		ng/L		97	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	118		ng/L		98	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	123		ng/L		102	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	125		ng/L		102	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	119		ng/L		98	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	122		ng/L		101	70 - 130	4	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	98		50 - 200
13C6 PFDA	99		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	99		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	103		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	99		50 - 200
13C5 PFPeA	98		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	99		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	99		50 - 200
13C2-6:2-FTS	100		50 - 200
13C2-8:2-FTS	95		50 - 200

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

Lab Sample ID: MBL 380-194808/20-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194808

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		12/29/25 06:00	12/30/25 08:24	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1

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QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MBL 380-194808/20-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194808

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			12/29/25 06:00	12/30/25 08:24	1
13C2 PFHxA	105		70 - 130			12/29/25 06:00	12/30/25 08:24	1
13C2 PFDA	108		70 - 130			12/29/25 06:00	12/30/25 08:24	1
13C3-GenX	98		70 - 130			12/29/25 06:00	12/30/25 08:24	1

Lab Sample ID: LCS 380-194808/22-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.2	47.1		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.2	52.3		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	53.5		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	48.8		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.2	46.9		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	50.4		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	53.2		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	51.8		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	52.3		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.2	51.9		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.2	51.6		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	50.7		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	50.2	53.4		ng/L		106	70 - 130

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: LCS 380-194808/22-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTA)	50.2	46.3		ng/L		92	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	57.4		ng/L		114	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.2	51.8		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.2	51.5		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.2	47.9		ng/L		95	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
d5-NEtFOSAA	93		70 - 130				
13C2 PFHxA	102		70 - 130				
13C2 PFDA	108		70 - 130				
13C3-GenX	95		70 - 130				

Lab Sample ID: MRL 380-194808/21-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194808

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.87	J	ng/L		93	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.17	J	ng/L		108	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.12	J	ng/L		105	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.16	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.29	J	ng/L		114	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.79	J	ng/L		89	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.27	J	ng/L		113	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.03	J	ng/L		101	50 - 150

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: MRL 380-194808/21-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 194808

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.85	J	ng/L		92	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.10	J	ng/L		104	50 - 150
	<i>MRL</i>	<i>MRL</i>					
Surrogate	%Recovery	Qualifier	Limits				
<i>d5-NEtFOSAA</i>	99		70 - 130				
<i>13C2 PFHxA</i>	101		70 - 130				
<i>13C2 PFDA</i>	103		70 - 130				
<i>13C3-GenX</i>	100		70 - 130				

Lab Sample ID: 380-189551-B-1-A MS
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	50.5		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.7		50.2	56.6		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	50.8		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	52.0		ng/L		104	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	50.4		ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	52.5		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	50.0		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.2	53.1		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.2	52.7		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.7		50.2	57.6		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	55.2		ng/L		110	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	52.1		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.2	50.8		ng/L		101	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	39.6		ng/L		79	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	54.7		ng/L		109	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	53.2		ng/L		106	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	51.8		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	50.9		ng/L		101	70 - 130

QC Sample Results

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

Lab Sample ID: 380-189551-B-1-A MS
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 194808

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	111		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	109		70 - 130

Lab Sample ID: 380-189551-C-1-A MSD
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 194808

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	50.2		ng/L		100	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	3.7		50.2	54.6		ng/L		101	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	51.7		ng/L		103	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	49.9		ng/L		99	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	49.2		ng/L		98	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	52.5		ng/L		103	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	50.9		ng/L		101	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	52.6		ng/L		102	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	51.1		ng/L		102	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	3.7		50.2	53.5		ng/L		99	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	50.0		ng/L		100	70 - 130	10	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	52.1		ng/L		103	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	52.5		ng/L		105	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	37.0		ng/L		74	70 - 130	7	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	53.0		ng/L		106	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	52.0		ng/L		104	70 - 130	2	30
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	46.1		ng/L		92	70 - 130	12	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	49.1		ng/L		98	70 - 130	4	30

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	111		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	106		70 - 130

QC Association Summary

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

LCMS

Prep Batch: 194747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189503-2	FB: Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-194747/22-A	Method Blank	Total/NA	Water	533	
LCS 380-194747/24-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-194747/23-A	Lab Control Sample	Total/NA	Water	533	
380-188906-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-188906-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 194808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189503-1	Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
380-189503-2	FB: Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
MBL 380-194808/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-194808/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-194808/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-189551-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-189551-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 194911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189503-2	FB: Ka'amilo Wells P2	Total/NA	Water	533	194747
MBL 380-194747/22-A	Method Blank	Total/NA	Water	533	194747
LCS 380-194747/24-A	Lab Control Sample	Total/NA	Water	533	194747
MRL 380-194747/23-A	Lab Control Sample	Total/NA	Water	533	194747
380-188906-B-1-A MS	Matrix Spike	Total/NA	Water	533	194747
380-188906-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	194747

Analysis Batch: 194978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189503-1	Ka'amilo Wells P2	Total/NA	Water	537.1	194808
380-189503-2	FB: Ka'amilo Wells P2	Total/NA	Water	537.1	194808
MBL 380-194808/20-A	Method Blank	Total/NA	Water	537.1	194808
LCS 380-194808/22-A	Lab Control Sample	Total/NA	Water	537.1	194808
MRL 380-194808/21-A	Lab Control Sample	Total/NA	Water	537.1	194808
380-189551-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	194808
380-189551-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	194808

Prep Batch: 195303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189503-1	Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-195303/20-A	Method Blank	Total/NA	Water	533	
LCS 380-195303/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-195303/21-A	Lab Control Sample	Total/NA	Water	533	
380-189556-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-189556-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 195464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189503-1	Ka'amilo Wells P2	Total/NA	Water	533	195303
MBL 380-195303/20-A	Method Blank	Total/NA	Water	533	195303
LCS 380-195303/22-A	Lab Control Sample	Total/NA	Water	533	195303
MRL 380-195303/21-A	Lab Control Sample	Total/NA	Water	533	195303

Eurofins Pomona

QC Association Summary

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

LCMS (Continued)

Analysis Batch: 195464 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189556-B-1-A MS	Matrix Spike	Total/NA	Water	533	195303
380-189556-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	195303

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Lab Chronicle

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-189503-1

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			195303	N8NE	EA POM	12/31/25 14:25
Total/NA	Analysis	533		1	195464	SZ9R	EA POM	01/02/26 09:07
Total/NA	Prep	537.1 DW			194808	G9MN	EA POM	12/29/25 06:00
Total/NA	Analysis	537.1		1	194978	SZ9R	EA POM	12/30/25 09:43

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-189503-2

Date Collected: 12/22/25 11:03

Matrix: Water

Date Received: 12/24/25 10:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			194747	E9PK	EA POM	12/28/25 14:25
Total/NA	Analysis	533		1	194911	M7ML	EA POM	12/29/25 22:20
Total/NA	Prep	537.1 DW			194808	G9MN	EA POM	12/29/25 06:00
Total/NA	Analysis	537.1		1	194978	SZ9R	EA POM	12/30/25 09:52

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: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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

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Method Summary

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

Job ID: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

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: 380-189503-1
SDG: PFAS: Ka'amilo Wells P2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-189503-1	Ka'amilo Wells P2	Water	12/22/25 11:03	12/24/25 10:37	Hawaii
380-189503-2	FB: Ka'amilo Wells P2	Water	12/22/25 11:03	12/24/25 10:37	Hawaii

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Chain of Custody Record

Client Information		Lab P/N: Arada, Rachelle	Carrier Tracking No(s): 380-27941-2757.2
Client Contact: Kirik Iwamoto		E-Mail: Rachelle.Arada@et.eurofins.com	State of Origin: Page 2 of 2
Company: City & County of Honolulu		FWSID:	Job #:
Address: 630 South Beretania Street, Chemistry Lab		Analysis Requested	
City: Honolulu		Total Number of Containers: <input checked="" type="checkbox"/>	
State, Zip: HI, 96843		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4-5 Y - Trioma Z - other (specify)	
Phone: 808-748-5840 (tel)		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 Other	
Email: kiwamoto@hbws.org		Special Instructions/Note:	
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>	
Site:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>	
Due Date Requested:		80158_GRO_LL - (MOD) GRO	
TAT Requested (days): RUSH		80158_GRO_LL - (MOD) GRO	
Compliance Project: <input type="checkbox"/> No		C18	
PO #: C20525101 exp 05312023		625.2_PRC - (MOD) 625plus PLUS TICs	
WO #:		637.1_DW_PRC - 637.1 Full List	
Project #: 3800111		633 - All Analytes	
SSOW#:		633 - All Analytes	
Sample Date		R A Q OA Y I	
Sample Time		3 3	
Sample Type (C=comp, G=grab)		1 1	
Matrix (Inorganic, Semimetal, Organic)		1 1	
Preservation Code:		Water	
Sample Identification		Water	
Ka'amilo Wells P2		Water	
FB: Ka'amilo Wells P2		Water	
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by		Method of Shipment: 8873 STU 3071	
Date: 1/08/2015		Received by: [Signature]	
Date: 1/24/25		Received by: [Signature]	
Date: 0.7/0.7		Received by: [Signature]	
Custody Seal No.: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 0.7/0.7 631A BLUE COB	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-189503-1
SDG Number: PFAS: Ka'amilo Wells P2

Login Number: 189503
List Number: 1
Creator: Segura, Ryan

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	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

