

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Ka'amilo Wells P1/P2

JOB NUMBER

380-171945-1

Eurofins Eaton Analytical 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 Eaton Analytical, 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
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Definitions/Glossary

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/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: 380-171945-1

Job ID: 380-171945-1

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Job Narrative 380-171945-1

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 9/17/2025 9:33 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 4.1°C.

PFAS

Method 537.1_DW_PREC: Surrogates 13C2 PFHxA, 13C2 PFDA and 13C3-GenX failed biased high MRL check possibly due to double spiking the surrogates. Another MRL check was extracted on the same day (Prep Batch: 174860, Analytical Batch 174971) using the same lot of reagents and consumables and extracted by the same analyst. Only one MRL check is required on each day. Method blank and LCS passed all QC requirements for affected samples

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: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-171945-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.6		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	3.6		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.6		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.0		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-171945-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.5		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.6		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-171945-3

No Detections.

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-171945-4

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-171945-1

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

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		09/18/25 07:46	09/18/25 20:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorobutanesulfonic acid (PFBS)	2.9		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorohexanoic acid (PFHxA)	3.4		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorooctanesulfonic acid (PFOS)	4.4		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorooctanoic acid (PFOA)	3.6		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C6 PFDA	112		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C5 PFHxA	118		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C4 PFHpA	119		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C8 PFOA	119		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C9 PFNA	115		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C7 PFUnA	108		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C2 PFDoA	104		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C4 PFBA	115		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C5 PFPeA	120		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C3 PFBS	118		50 - 200	09/18/25 07:46	09/18/25 20:13	1

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Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-171945-1

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	115		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C8 PFOS	111		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C2-4:2-FTS	120		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C2-6:2-FTS	113		50 - 200	09/18/25 07:46	09/18/25 20:13	1
13C2-8:2-FTS	109		50 - 200	09/18/25 07:46	09/18/25 20:13	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		09/18/25 02:46	09/18/25 19:24	1
Perfluorooctanesulfonic acid (PFOS)	4.3		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorohexanoic acid (PFHxA)	3.6		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorooctanoic acid (PFOA)	3.6		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorobutanesulfonic acid (PFBS)	3.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130	09/18/25 02:46	09/18/25 19:24	1
13C2 PFHxA	105		70 - 130	09/18/25 02:46	09/18/25 19:24	1
13C2 PFDA	107		70 - 130	09/18/25 02:46	09/18/25 19:24	1
13C3-GenX	104		70 - 130	09/18/25 02:46	09/18/25 19:24	1

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-171945-2

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

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		09/18/25 07:46	09/18/25 20:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-171945-2

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

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		09/18/25 07:46	09/18/25 20:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorooctanesulfonic acid (PFOS)	3.8		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorooctanoic acid (PFOA)	3.3		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C6 PFDA	112		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C5 PFHxA	115		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C4 PFHpA	114		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C8 PFOA	116		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C9 PFNA	117		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C7 PFUnA	112		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C2 PFDoA	111		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C4 PFBA	112		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C5 PFPeA	113		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C3 PFBS	113		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C3 PFHxS	114		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C8 PFOS	113		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C2-4:2-FTS	123		50 - 200	09/18/25 07:46	09/18/25 20:23	1
13C2-6:2-FTS	117		50 - 200	09/18/25 07:46	09/18/25 20:23	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-171945-2

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	109		50 - 200	09/18/25 07:46	09/18/25 20:23	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		09/18/25 02:46	09/18/25 19:34	1
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorooctanoic acid (PFOA)	3.5		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorobutanesulfonic acid (PFBS)	2.6		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			09/18/25 02:46	09/18/25 19:34	1
13C2 PFHxA	109		70 - 130			09/18/25 02:46	09/18/25 19:34	1
13C2 PFDA	112		70 - 130			09/18/25 02:46	09/18/25 19:34	1
13C3-GenX	107		70 - 130			09/18/25 02:46	09/18/25 19:34	1

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-171945-3

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

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 (11CI-PF3OUdS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-171945-3

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:32	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C6 PFDA	115		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C5 PFHxA	119		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C4 PFHpA	116		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C8 PFOA	121		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C9 PFNA	120		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C7 PFUnA	115		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C2 PFDoA	113		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C4 PFBA	118		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C5 PFPeA	124		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C3 PFBS	122		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C3 PFHxS	118		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C8 PFOS	119		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C2-4:2-FTS	128		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C2-6:2-FTS	119		50 - 200	09/18/25 07:46	09/18/25 20:32	1
13C2-8:2-FTS	111		50 - 200	09/18/25 07:46	09/18/25 20:32	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		09/18/25 02:46	09/18/25 19:43	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-171945-3

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130			09/18/25 02:46	09/18/25 19:43	1
13C2 PFHxA	106		70 - 130			09/18/25 02:46	09/18/25 19:43	1
13C2 PFDA	109		70 - 130			09/18/25 02:46	09/18/25 19:43	1
13C3-GenX	98		70 - 130			09/18/25 02:46	09/18/25 19:43	1

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-171945-4

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

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		09/18/25 07:46	09/18/25 20:42	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-171945-4

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/18/25 07:46	09/18/25 20:42	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C6 PFDA	113		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C5 PFHxA	116		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C4 PFHpA	115		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C8 PFOA	117		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C9 PFNA	116		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C7 PFUnA	111		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C2 PFDoA	110		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C4 PFBA	116		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C5 PFPeA	118		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C3 PFBS	118		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C3 PFHxS	112		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C8 PFOS	114		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C2-4:2-FTS	124		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C2-6:2-FTS	114		50 - 200			09/18/25 07:46	09/18/25 20:42	1
13C2-8:2-FTS	110		50 - 200			09/18/25 07:46	09/18/25 20:42	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		09/18/25 02:46	09/18/25 19:53	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-171945-4

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/25 02:46	09/18/25 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130	09/18/25 02:46	09/18/25 19:53	1
13C2 PFHxA	110		70 - 130	09/18/25 02:46	09/18/25 19:53	1
13C2 PFDA	113		70 - 130	09/18/25 02:46	09/18/25 19:53	1
13C3-GenX	103		70 - 130	09/18/25 02:46	09/18/25 19:53	1

Action Limit Summary

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-171945-1

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)	3.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	3.6		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)	4.3		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.6		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		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: Ka'amilo Wells P2

Lab Sample ID: 380-171945-2

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)	3.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		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)	3.6		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.5		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		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: 380-171945-3

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1 (Continued)

Lab Sample ID: 380-171945-3

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			
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

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-171945-4

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: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/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)
380-171945-1	Ka'amilo Wells P1	103	105	107	104
380-171945-2	Ka'amilo Wells P2	102	109	112	107
380-171945-3	FB: Ka'amilo Wells P1	101	106	109	98
380-171945-4	FB: Ka'amilo Wells P2	99	110	113	103
380-171974-F-1-A MS	Matrix Spike	105	110	109	103
380-171974-G-1-A MSD	Matrix Spike Duplicate	109	110	110	105
LCS 380-174859/22-A	Lab Control Sample	99	112	114	98
MBL 380-174859/20-A	Method Blank	93	97	98	90
MRL 380-174860/21-A	Lab Control Sample	107	111	107	104

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: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/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)	PFDaA (50-200)
380-171694-B-17-A MS	Matrix Spike	99	110	112	110	113	111	108	107
380-171694-C-17-A MSD	Matrix Spike Duplicate	105	114	114	114	118	114	112	111
380-171945-1	Ka'amilo Wells P1	108	112	118	119	119	115	108	104
380-171945-2	Ka'amilo Wells P2	100	112	115	114	116	117	112	111
380-171945-3	FB: Ka'amilo Wells P1	96	115	119	116	121	120	115	113
380-171945-4	FB: Ka'amilo Wells P2	93	113	116	115	117	116	111	110
LCS 380-174869/22-A	Lab Control Sample	89	111	109	109	114	113	110	108
MBL 380-174869/20-A	Method Blank	93	115	124	123	127	121	116	114
MRL 380-174869/21-A	Lab Control Sample	92	111	118	115	118	117	109	110
		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)
380-171694-B-17-A MS	Matrix Spike	109	112	114	114	111	126	110	110
380-171694-C-17-A MSD	Matrix Spike Duplicate	116	120	118	114	113	120	116	108
380-171945-1	Ka'amilo Wells P1	115	120	118	115	111	120	113	109
380-171945-2	Ka'amilo Wells P2	112	113	113	114	113	123	117	109
380-171945-3	FB: Ka'amilo Wells P1	118	124	122	118	119	128	119	111
380-171945-4	FB: Ka'amilo Wells P2	116	118	118	112	114	124	114	110
LCS 380-174869/22-A	Lab Control Sample	111	114	117	112	110	116	110	109
MBL 380-174869/20-A	Method Blank	122	126	127	124	119	130	120	105
MRL 380-174869/21-A	Lab Control Sample	114	120	118	116	116	118	112	107
Surrogate Legend									
HFPODA = 13C3 HFPO-DA									
C6PFDA = 13C6 PFDA									
13C5PHA = 13C5 PFHxA									
C4PFHA = 13C4 PFHpA									
C8PFOA = 13C8 PFOA									
C9PFNA = 13C9 PFNA									
13C7PUA = 13C7 PFUnA									
PFDaA = 13C2 PFDaA									
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: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-174869/20-A

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 174869

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		09/18/25 07:46	09/18/25 17:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		09/18/25 07:46	09/18/25 17:05	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C6 PFDA	115		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C5 PFHxA	124		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C4 PFHpA	123		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C8 PFOA	127		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C9 PFNA	121		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C7 PFUnA	116		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C2 PFDoA	114		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C4 PFBA	122		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C5 PFPeA	126		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C3 PFBS	127		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C3 PFHxS	124		50 - 200	09/18/25 07:46	09/18/25 17:05	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-174869/20-A

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 174869

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	119		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C2-4:2-FTS	130		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C2-6:2-FTS	120		50 - 200	09/18/25 07:46	09/18/25 17:05	1
13C2-8:2-FTS	105		50 - 200	09/18/25 07:46	09/18/25 17:05	1

Lab Sample ID: LCS 380-174869/22-A

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174869

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	62.6		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	60.5		ng/L		100	70 - 130
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	60.4	59.4		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	58.4		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	60.7		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	61.3		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	60.3		ng/L		100	70 - 130
Perfluorooheptanoic acid (PFHpA)	60.4	60.6		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	58.8		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	60.3		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	60.4	58.0		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	61.5		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	58.1		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	58.6		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	58.1		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	58.3		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	59.9		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	61.0		ng/L		101	70 - 130
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	60.4	59.3		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.4	55.6		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	59.5		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	57.1		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	56.8		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	60.6		ng/L		100	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-174869/22-A

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174869

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.4	58.5		ng/L		97	70 - 130
	LCS	LCS					
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	89		50 - 200				
13C6 PFDA	111		50 - 200				
13C5 PFHxA	109		50 - 200				
13C4 PFHpA	109		50 - 200				
13C8 PFOA	114		50 - 200				
13C9 PFNA	113		50 - 200				
13C7 PFUnA	110		50 - 200				
13C2 PFDoA	108		50 - 200				
13C4 PFBA	111		50 - 200				
13C5 PFPeA	114		50 - 200				
13C3 PFBS	117		50 - 200				
13C3 PFHxS	112		50 - 200				
13C8 PFOS	110		50 - 200				
13C2-4:2-FTS	116		50 - 200				
13C2-6:2-FTS	110		50 - 200				
13C2-8:2-FTS	109		50 - 200				

Lab Sample ID: MRL 380-174869/21-A

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174869

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.07	J	ng/L		103	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.98	J	ng/L		98	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.99	J	ng/L		99	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.08	J	ng/L		103	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.02	J	ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.18	J	ng/L		109	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.04	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.05	J	ng/L		102	50 - 150

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QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-174869/21-A

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174869

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.25	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.24	J	ng/L		111	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	1.98	J	ng/L		99	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.82	J	ng/L		90	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.10	J	ng/L		104	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.98	J	ng/L		99	50 - 150

Isotope Dilution	%Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	92		50 - 200
13C6 PFDA	111		50 - 200
13C5 PFHxA	118		50 - 200
13C4 PFHpA	115		50 - 200
13C8 PFOA	118		50 - 200
13C9 PFNA	117		50 - 200
13C7 PFUnA	109		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	114		50 - 200
13C5 PFPeA	120		50 - 200
13C3 PFBS	118		50 - 200
13C3 PFHxS	116		50 - 200
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	118		50 - 200
13C2-6:2-FTS	112		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: 380-171694-B-17-A MS

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174869

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	65.6		ng/L		109	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	63.2		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	62.7		ng/L		104	70 - 130

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QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-171694-B-17-A MS

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174869

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.2	61.8		ng/L		103	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	66.5		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	64.5		ng/L		107	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	62.7		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	64.1		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	62.7		ng/L		103	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	62.5		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	64.4		ng/L		107	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	65.9		ng/L		109	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	63.5		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	62.3		ng/L		103	70 - 130
Perfluorobutanoic acid (PFBA)	2.2		60.2	65.0		ng/L		104	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	61.1		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	61.0		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	64.8		ng/L		108	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	60.5		ng/L		100	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		60.2	63.1		ng/L		105	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	61.5		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	56.7		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	62.1		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	63.0		ng/L		105	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	61.8		ng/L		103	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	110		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	114		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	111		50 - 200

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QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-171694-B-17-A MS

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174869

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	126		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	110		50 - 200

Lab Sample ID: 380-171694-C-17-A MSD

Matrix: Water

Analysis Batch: 174999

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 174869

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	64.5		ng/L		107	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		60.2	61.7		ng/L		102	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	60.0		ng/L		100	70 - 130	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	60.1		ng/L		100	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	64.3		ng/L		105	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	62.6		ng/L		104	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.9		ng/L		101	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	62.2		ng/L		103	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	61.5		ng/L		101	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	60.8		ng/L		98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	61.0		ng/L		101	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	63.3		ng/L		105	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	60.9		ng/L		99	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	60.1		ng/L		100	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	2.2		60.2	60.6		ng/L		97	70 - 130	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.8		ng/L		101	70 - 130	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	60.9		ng/L		101	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	62.8		ng/L		104	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	60.5		ng/L		100	70 - 130	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		60.2	59.0		ng/L		98	70 - 130	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	60.4		ng/L		100	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMPA)	<2.0		60.2	55.1		ng/L		91	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	59.2		ng/L		96	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	61.5		ng/L		102	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	60.1		ng/L		100	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	114		50 - 200
13C5 PFHxA	114		50 - 200
13C4 PFHpA	114		50 - 200
13C8 PFOA	118		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	116		50 - 200
13C5 PFPeA	120		50 - 200
13C3 PFBS	118		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	120		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	108		50 - 200

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

Lab Sample ID: MBL 380-174859/20-A
Matrix: Water
Analysis Batch: 174966

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 174859

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		09/18/25 02:46	09/18/25 16:23	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	93		70 - 130			09/18/25 02:46	09/18/25 16:23	1
13C2 PFHxA	97		70 - 130			09/18/25 02:46	09/18/25 16:23	1
13C2 PFDA	98		70 - 130			09/18/25 02:46	09/18/25 16:23	1

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QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-174859/20-A

Matrix: Water

Analysis Batch: 174966

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 174859

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	90		70 - 130	09/18/25 02:46	09/18/25 16:23	1

Lab Sample ID: LCS 380-174859/22-A

Matrix: Water

Analysis Batch: 174966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174859

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	50.3	41.8		ng/L		83	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.3	49.1		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.3	49.6		ng/L		99	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.3	43.8		ng/L		87	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.3	42.6		ng/L		85	70 - 130
Perfluorohexanoic acid (PFHxA)	50.3	45.3		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	50.3	48.1		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	50.3	47.0		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	50.3	49.0		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.3	49.6		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.3	49.8		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.3	46.5		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	50.3	47.5		ng/L		95	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.3	43.9		ng/L		87	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.3	49.8		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.3	49.6		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.3	48.3		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.3	42.3		ng/L		84	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	112		70 - 130
13C2 PFDA	114		70 - 130
13C3-GenX	98		70 - 130

QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-171974-F-1-A MS

Matrix: Water

Analysis Batch: 174966

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174859

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		25.1	23.2		ng/L		92	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	25.0		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.1		ng/L		100	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.9		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	24.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.0		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.8		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	25.3		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	26.0		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	25.1		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	25.4		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	24.8		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.5		ng/L		102	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	21.9		ng/L		87	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	25.1		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	24.7		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	24.5		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	24.8		ng/L		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	105		70 - 130
13C2 PFHxA	110		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	103		70 - 130

Lab Sample ID: 380-171974-G-1-A MSD

Matrix: Water

Analysis Batch: 174966

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 174859

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide	<2.0		25.1	23.7		ng/L		94	70 - 130	2	30
Dimer Acid (HFPO-DA/GenX)											
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	25.8		ng/L		103	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.0		ng/L		100	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.7		ng/L		98	70 - 130	1	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-171974-G-1-A MSD

Matrix: Water

Analysis Batch: 174966

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 174859

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<2.0		25.1	24.5		ng/L		98	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.3		ng/L		105	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.5		ng/L		101	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	25.6		ng/L		102	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.7		ng/L		103	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.4		ng/L		105	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.7		ng/L		106	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.9		ng/L		103	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.9		ng/L		103	70 - 130	1	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	22.5		ng/L		90	70 - 130	3	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	25.3		ng/L		101	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	25.8		ng/L		103	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	25.0		ng/L		99	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	25.0		ng/L		100	70 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
d5-NETFOSAA	109		70 - 130
13C2 PFHxA	110		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	105		70 - 130

Lab Sample ID: MRL 380-174860/21-A

Matrix: Water

Analysis Batch: 174971

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174860

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		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.17	J	ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.06	J	ng/L		102	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.27	J	ng/L		113	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	2.01	2.28	J	ng/L		113	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.06	J	ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.11	J	ng/L		105	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-174860/21-A

Matrix: Water

Analysis Batch: 174971

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174860

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.34	J	ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.25	J	ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.24	J	ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.20	J	ng/L		110	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.85	J	ng/L		92	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	2.26	J	ng/L		112	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.07	J	ng/L		103	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.08	J	ng/L		103	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
d5-NEtFOSAA	107		70 - 130				
13C2 PFHxA	111		70 - 130				
13C2 PFDA	107		70 - 130				
13C3-GenX	104		70 - 130				

QC Association Summary

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS

Prep Batch: 174859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171945-1	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-171945-2	Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
380-171945-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-171945-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
MBL 380-174859/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-174859/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-171974-F-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-171974-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 174860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-174860/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	

Prep Batch: 174869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171945-1	Ka'amilo Wells P1	Total/NA	Water	533	
380-171945-2	Ka'amilo Wells P2	Total/NA	Water	533	
380-171945-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	
380-171945-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-174869/20-A	Method Blank	Total/NA	Water	533	
LCS 380-174869/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-174869/21-A	Lab Control Sample	Total/NA	Water	533	
380-171694-B-17-A MS	Matrix Spike	Total/NA	Water	533	
380-171694-C-17-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 174966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171945-1	Ka'amilo Wells P1	Total/NA	Water	537.1	174859
380-171945-2	Ka'amilo Wells P2	Total/NA	Water	537.1	174859
380-171945-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1	174859
380-171945-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1	174859
MBL 380-174859/20-A	Method Blank	Total/NA	Water	537.1	174859
LCS 380-174859/22-A	Lab Control Sample	Total/NA	Water	537.1	174859
380-171974-F-1-A MS	Matrix Spike	Total/NA	Water	537.1	174859
380-171974-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	174859

Analysis Batch: 174971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 380-174860/21-A	Lab Control Sample	Total/NA	Water	537.1	174860

Analysis Batch: 174999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171945-1	Ka'amilo Wells P1	Total/NA	Water	533	174869
380-171945-2	Ka'amilo Wells P2	Total/NA	Water	533	174869
380-171945-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	174869
380-171945-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	174869
MBL 380-174869/20-A	Method Blank	Total/NA	Water	533	174869
LCS 380-174869/22-A	Lab Control Sample	Total/NA	Water	533	174869
MRL 380-174869/21-A	Lab Control Sample	Total/NA	Water	533	174869
380-171694-B-17-A MS	Matrix Spike	Total/NA	Water	533	174869
380-171694-C-17-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	174869

Eurofins Eaton Analytical Pomona

Lab Chronicle

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-171945-1

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			174869	XTD8	EA POM	09/18/25 07:46
Total/NA	Analysis	533		1	174999	SZ9R	EA POM	09/18/25 20:13
Total/NA	Prep	537.1 DW			174859	G9MN	EA POM	09/18/25 02:46
Total/NA	Analysis	537.1		1	174966	SZ9R	EA POM	09/18/25 19:24

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-171945-2

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			174869	XTD8	EA POM	09/18/25 07:46
Total/NA	Analysis	533		1	174999	SZ9R	EA POM	09/18/25 20:23
Total/NA	Prep	537.1 DW			174859	G9MN	EA POM	09/18/25 02:46
Total/NA	Analysis	537.1		1	174966	SZ9R	EA POM	09/18/25 19:34

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-171945-3

Date Collected: 09/15/25 12:12

Matrix: Water

Date Received: 09/17/25 09:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			174869	XTD8	EA POM	09/18/25 07:46
Total/NA	Analysis	533		1	174999	SZ9R	EA POM	09/18/25 20:32
Total/NA	Prep	537.1 DW			174859	G9MN	EA POM	09/18/25 02:46
Total/NA	Analysis	537.1		1	174966	SZ9R	EA POM	09/18/25 19:43

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-171945-4

Date Collected: 09/15/25 13:03

Matrix: Water

Date Received: 09/17/25 09:33

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			174869	XTD8	EA POM	09/18/25 07:46
Total/NA	Analysis	533		1	174999	SZ9R	EA POM	09/18/25 20:42
Total/NA	Prep	537.1 DW			174859	G9MN	EA POM	09/18/25 02:46
Total/NA	Analysis	537.1		1	174966	SZ9R	EA POM	09/18/25 19:53

Laboratory References:

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

Eurofins Eaton Analytical Pomona

Accreditation/Certification Summary

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Laboratory: Eurofins Eaton Analytical Pomona

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

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
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- 15
- 16
- 17

Method Summary

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

Job ID: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/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 Eaton Analytical 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: 380-171945-1
SDG: PFAS: Ka'amilo Wells P1/P2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-171945-1	Ka'amilo Wells P1	Water	09/15/25 12:12	09/17/25 09:33	Hawaii
380-171945-2	Ka'amilo Wells P2	Water	09/15/25 13:03	09/17/25 09:33	Hawaii
380-171945-3	FB: Ka'amilo Wells P1	Water	09/15/25 12:12	09/17/25 09:33	Hawaii
380-171945-4	FB: Ka'amilo Wells P2	Water	09/15/25 13:03	09/17/25 09:33	Hawaii

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

Chain of Custody Record



Eni
Am



Client Information		Lab PM Arada Rachelle	Carrier Tracking No(s)	COC No: 380-27941-2757 2	380-171945 COC
Client Contact: Kirk Iwamoto		E-Mail: Rachelle.Arada@et.euronisus.com	State of Origin	Page: Page 2 of 2	
Company: City & County of Honolulu		PWSID	Job #:		
Address: 630 South Beretania Street; Chemistry Lab Honolulu State, Zip: HI 96843		Analysis Requested			
Due Date 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 Other:			
TAT Requested (days): RUSH		Total Number of Containers			
Compliance Project: ☐ No		Special Instructions/Note			
PO #: C20525101 exp 05312023					
WO #:					
Project #: 38001111					
Event Desc: RUSH Weekly Red Hill					
Site:					
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)
Ka'amilo Wells P1		15-Sep-2025	1212	G	Water
Ka'amilo Wells P2		15-Sep-2025	1303	G	Water
FB: Ka'amilo Wells P1		15-Sep-2025	1212		Water
FB: Ka'amilo Wells P2		15-Sep-2025	1303		Water
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		☐ 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		
Relinquished by:		Date/Time:	Date/Time:		
Relinquished by:		Date/Time:	Date/Time:		
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No			

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-171945-1

SDG Number: PFAS: Ka'amilo Wells P1/P2

Login Number: 171945

List Number: 1

Creator: Edrosa, Rey

List Source: Eurofins Eaton Analytical 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	
CIO4 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	