

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

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

JOB NUMBER

380-163439-1

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: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
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: 380-163439-1

Job ID: 380-163439-1

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Job Narrative 380-163439-1

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 7/30/2025 10:13 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C.

PFAS

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: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-163439-1

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)	3.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.6		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.7		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.2		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	3.5		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.9		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.9		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-163439-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.7		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-163439-3

No Detections.

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-163439-4

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: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-163439-1

Date Collected: 07/28/25 10:59

Matrix: Water

Date Received: 07/30/25 10:13

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		08/02/25 15:40	08/03/25 15:16	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorohexanoic acid (PFHxA)	3.4		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorooctanesulfonic acid (PFOS)	4.3		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorooctanoic acid (PFOA)	3.6		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoropentanoic acid (PFPeA)	3.7		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	67		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C6 PFDA	75		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C5 PFHxA	68		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C4 PFHpA	71		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C8 PFOA	70		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C9 PFNA	74		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C7 PFUnA	75		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C2 PFDoA	73		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C4 PFBA	72		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C5 PFPeA	77		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C3 PFBS	103		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C3 PFHxS	104		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C8 PFOS	103		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C2-4:2-FTS	113		50 - 200	08/02/25 15:40	08/03/25 15:16	1
13C2-6:2-FTS	108		50 - 200	08/02/25 15:40	08/03/25 15:16	1

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Client Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-163439-1

Date Collected: 07/28/25 10:59

Matrix: Water

Date Received: 07/30/25 10:13

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	92		50 - 200	08/02/25 15:40	08/03/25 15:16	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		07/31/25 03:30	08/02/25 15:41	1
Perfluorooctanesulfonic acid (PFOS)	4.2		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorohexanoic acid (PFHxA)	3.5		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorooctanoic acid (PFOA)	3.9		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorobutanesulfonic acid (PFBS)	2.9		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130	07/31/25 03:30	08/02/25 15:41	1
13C2 PFHxA	98		70 - 130	07/31/25 03:30	08/02/25 15:41	1
13C2 PFDA	104		70 - 130	07/31/25 03:30	08/02/25 15:41	1
13C3-GenX	99		70 - 130	07/31/25 03:30	08/02/25 15:41	1

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-163439-2

Date Collected: 07/28/25 11:43

Matrix: Water

Date Received: 07/30/25 10:13

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		08/02/25 15:40	08/03/25 15:26	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorobutanesulfonic acid (PFBS)	2.4		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1

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Client Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-163439-2

Date Collected: 07/28/25 11:43

Matrix: Water

Date Received: 07/30/25 10:13

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorohexanoic acid (PFHxA)	2.7		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorooctanoic acid (PFOA)	3.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoropentanoic acid (PFPeA)	2.9		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/02/25 15:40	08/03/25 15:26	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	66		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C6 PFDA	67		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C5 PFHxA	70		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C4 PFHpA	68		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C8 PFOA	68		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C9 PFNA	67		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C7 PFUnA	67		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C2 PFDoA	68		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C4 PFBA	75		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C5 PFPeA	82		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C3 PFBS	104		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C3 PFHxS	107		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C8 PFOS	101		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C2-4:2-FTS	117		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C2-6:2-FTS	108		50 - 200	08/02/25 15:40	08/03/25 15:26	1
13C2-8:2-FTS	94		50 - 200	08/02/25 15:40	08/03/25 15:26	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		07/31/25 03:30	08/02/25 15:52	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-163439-2

Date Collected: 07/28/25 11:43

Matrix: Water

Date Received: 07/30/25 10:13

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorooctanoic acid (PFOA)	3.3		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/31/25 03:30	08/02/25 15:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	113		70 - 130			07/31/25 03:30	08/02/25 15:52	1
13C2 PFHxA	95		70 - 130			07/31/25 03:30	08/02/25 15:52	1
13C2 PFDA	102		70 - 130			07/31/25 03:30	08/02/25 15:52	1
13C3-GenX	97		70 - 130			07/31/25 03:30	08/02/25 15:52	1

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-163439-3

Date Collected: 07/28/25 10:59

Matrix: Water

Date Received: 07/30/25 10:13

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		07/31/25 17:15	08/01/25 12:00	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-163439-3

Date Collected: 07/28/25 10:59

Matrix: Water

Date Received: 07/30/25 10:13

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-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:00	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	87		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C6 PFDA	98		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C5 PFHxA	110		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C4 PFHpA	108		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C8 PFOA	105		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C9 PFNA	103		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C7 PFUnA	96		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C2 PFDoA	94		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C4 PFBA	106		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C5 PFPeA	108		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C3 PFBS	111		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C3 PFHxS	113		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C8 PFOS	102		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C2-4:2-FTS	136		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C2-6:2-FTS	131		50 - 200	07/31/25 17:15	08/01/25 12:00	1
13C2-8:2-FTS	116		50 - 200	07/31/25 17:15	08/01/25 12:00	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		07/31/25 03:30	08/01/25 15:16	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-163439-3

Date Collected: 07/28/25 10:59

Matrix: Water

Date Received: 07/30/25 10:13

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/31/25 03:30	08/01/25 15:16	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			07/31/25 03:30	08/01/25 15:16	1
13C2 PFHxA	109		70 - 130			07/31/25 03:30	08/01/25 15:16	1
13C2 PFDA	108		70 - 130			07/31/25 03:30	08/01/25 15:16	1
13C3-GenX	108		70 - 130			07/31/25 03:30	08/01/25 15:16	1

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-163439-4

Date Collected: 07/28/25 11:43

Matrix: Water

Date Received: 07/30/25 10:13

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		07/31/25 17:15	08/01/25 12:09	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/31/25 17:15	08/01/25 12:09	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-163439-4

Date Collected: 07/28/25 11:43

Matrix: Water

Date Received: 07/30/25 10:13

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	98		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C6 PFDA	104		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C5 PFHxA	121		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C4 PFHpA	121		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C8 PFOA	116		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C9 PFNA	113		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C7 PFUnA	102		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C2 PFDoA	99		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C4 PFBA	116		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C5 PFPeA	117		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C3 PFBS	121		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C3 PFHxS	123		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C8 PFOS	109		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C2-4:2-FTS	157		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C2-6:2-FTS	140		50 - 200	07/31/25 17:15	08/01/25 12:09	1
13C2-8:2-FTS	124		50 - 200	07/31/25 17:15	08/01/25 12:09	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		07/31/25 03:30	07/31/25 22:48	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/31/25 03:30	07/31/25 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130	07/31/25 03:30	07/31/25 22:48	1
13C2 PFHxA	109		70 - 130	07/31/25 03:30	07/31/25 22:48	1
13C2 PFDA	109		70 - 130	07/31/25 03:30	07/31/25 22:48	1
13C3-GenX	116		70 - 130	07/31/25 03:30	07/31/25 22:48	1

Action Limit Summary

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-163439-1

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)	3.4		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.3		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)	4.2		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.9		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		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: 380-163439-2

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)	2.9		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	3.0		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)	3.5		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		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: 380-163439-3

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			
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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-163439-3

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			
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: 380-163439-4

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: 380-163439-1
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)
380-163430-B-1-A MS	Matrix Spike	102	110	115	115
380-163430-C-1-A MSD	Matrix Spike Duplicate	101	109	111	117
380-163439-1	Ka'amilo Wells P1	110	98	104	99
380-163439-2	Ka'amilo Wells P2	113	95	102	97
380-163439-3	FB: Ka'amilo Wells P1	103	109	108	108
380-163439-4	FB: Ka'amilo Wells P2	100	109	109	116
LCS 380-166056/23-A	Lab Control Sample	99	104	106	108
MBL 380-166056/21-A	Method Blank	98	104	103	111
MRL 380-166056/22-A	Lab Control Sample	96	103	108	108

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: 380-163439-1
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)
380-163342-E-1-A MS	Matrix Spike	54	41 *5-	62	61	57	52	34 *5-	39 *5-
380-163342-F-1-A MSD	Matrix Spike Duplicate	46 *5	51	55	55	53	53	56	60
380-163439-1	Ka'amilo Wells P1	67	75	68	71	70	74	75	73
380-163439-2	Ka'amilo Wells P2	66	67	70	68	68	67	67	68
380-163439-3	FB: Ka'amilo Wells P1	87	98	110	108	105	103	96	94
380-163439-4	FB: Ka'amilo Wells P2	98	104	121	121	116	113	102	99
380-163802-B-1-A MS	Matrix Spike	108	103	83	90	100	106	98	91
380-163802-C-1-A MSD	Matrix Spike Duplicate	105	95	81	85	94	99	87	83
LCS 380-166179/22-A	Lab Control Sample	92	103	105	106	106	107	103	98
LCS 380-166475/22-A	Lab Control Sample	103	102	99	99	102	103	98	90
MBL 380-166179/20-A	Method Blank	90	102	108	110	107	107	101	97
MBL 380-166475/20-A	Method Blank	96	103	104	104	104	101	94	90
MRL 380-166179/21-A	Lab Control Sample	88	105	110	109	109	107	102	95
MRL 380-166475/21-A	Lab Control Sample	96	100	99	100	103	101	96	88

		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)
380-163342-E-1-A MS	Matrix Spike	66	63	109	114	106	136	136	127
380-163342-F-1-A MSD	Matrix Spike Duplicate	59	55	104	106	101	129	124	118
380-163439-1	Ka'amilo Wells P1	72	77	103	104	103	113	108	92
380-163439-2	Ka'amilo Wells P2	75	82	104	107	101	117	108	94
380-163439-3	FB: Ka'amilo Wells P1	106	108	111	113	102	136	131	116
380-163439-4	FB: Ka'amilo Wells P2	116	117	121	123	109	157	140	124
380-163802-B-1-A MS	Matrix Spike	89	114	101	106	104	100	113	98
380-163802-C-1-A MSD	Matrix Spike Duplicate	94	125	92	101	98	96	105	95
LCS 380-166179/22-A	Lab Control Sample	103	106	106	109	102	135	129	118
LCS 380-166475/22-A	Lab Control Sample	102	106	103	106	100	111	106	91
MBL 380-166179/20-A	Method Blank	106	107	109	109	103	138	132	121
MBL 380-166475/20-A	Method Blank	104	100	103	103	98	111	104	91
MRL 380-166179/21-A	Lab Control Sample	110	110	112	113	107	145	137	127
MRL 380-166475/21-A	Lab Control Sample	101	104	102	104	99	108	98	86

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: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-166179/20-A

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 166179

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		07/31/25 17:15	08/01/25 08:01	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		07/31/25 17:15	08/01/25 08:01	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C6 PFDA	102		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C5 PFHxA	108		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C4 PFHpA	110		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C8 PFOA	107		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C9 PFNA	107		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C7 PFUnA	101		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C2 PFDoA	97		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C4 PFBA	106		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C5 PFPeA	107		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C3 PFBS	109		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C3 PFHxS	109		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C8 PFOS	103		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C2-4:2-FTS	138		50 - 200	07/31/25 17:15	08/01/25 08:01	1
13C2-6:2-FTS	132		50 - 200	07/31/25 17:15	08/01/25 08:01	1

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-166179/20-A
Matrix: Water
Analysis Batch: 166302

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166179

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	121		50 - 200	07/31/25 17:15	08/01/25 08:01	1

Lab Sample ID: LCS 380-166179/22-A
Matrix: Water
Analysis Batch: 166302

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166179

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	120	119		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	120	118		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	111		ng/L		92	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	112		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	116		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	120	115		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	120	111		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	110		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	120	120		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	120	115		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	120		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	120	116		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	114		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	119		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	115		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	109		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	113		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	117		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	106		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	120	114		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	118		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	107		ng/L		89	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	92		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	105		50 - 200

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-166179/22-A

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166179

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C4 PFHpA	106		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	98		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	135		50 - 200
13C2-6:2-FTS	129		50 - 200
13C2-8:2-FTS	118		50 - 200

Lab Sample ID: MRL 380-166179/21-A

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166179

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.16	J	ng/L		108	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.11	J	ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.05	J	ng/L		102	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.20	J	ng/L		110	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.15	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.16	J	ng/L		108	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.19	J	ng/L		109	50 - 150
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	2.28	J	ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.18	J	ng/L		109	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoro (2-ethoxyethane) sulfoni acid (PFEEESA)	2.01	2.15	J	ng/L		107	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-166179/21-A

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166179

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.28	J	ng/L		113	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.02	J	ng/L		100	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	95		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	110		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	145		50 - 200
13C2-6:2-FTS	137		50 - 200
13C2-8:2-FTS	127		50 - 200

Lab Sample ID: 380-163342-E-1-A MS

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 166179

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		120	122		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	116		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	108		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	115		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	119		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	117	*5-	ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	112	*5-	ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	112		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	117		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	117		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	119		ng/L		99	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-163342-E-1-A MS

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 166179

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	<2.0		120	118		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	118	*5-	ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	114		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	113		ng/L		94	70 - 130
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	<2.0		120	104		ng/L		86	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	114		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	108		ng/L		90	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	107		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	118		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	119		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	110		ng/L		91	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C3 HFPO-DA	54		50 - 200
13C6 PFDA	41	*5-	50 - 200
13C5 PFHxA	62		50 - 200
13C4 PFHpA	61		50 - 200
13C8 PFOA	57		50 - 200
13C9 PFNA	52		50 - 200
13C7 PFUnA	34	*5-	50 - 200
13C2 PFDoA	39	*5-	50 - 200
13C4 PFBA	66		50 - 200
13C5 PFPeA	63		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	136		50 - 200
13C2-6:2-FTS	136		50 - 200
13C2-8:2-FTS	127		50 - 200

Lab Sample ID: 380-163342-F-1-A MSD

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 166179

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	120		ng/L		99	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	117		ng/L		97	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	106		ng/L		88	70 - 130	2	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-163342-F-1-A MSD

Matrix: Water

Analysis Batch: 166302

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 166179

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	112	*5-	ng/L		93	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	114		ng/L		95	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		121	117		ng/L		97	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	110		ng/L		91	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	118		ng/L		98	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	111		ng/L		92	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	119		ng/L		99	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		121	119		ng/L		98	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	119		ng/L		98	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		121	120		ng/L		100	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	114		ng/L		94	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		121	117		ng/L		97	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	114		ng/L		95	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	117		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	114		ng/L		94	70 - 130	1	30
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		121	101		ng/L		83	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	116		ng/L		96	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	108		ng/L		89	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	107		ng/L		88	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	115		ng/L		95	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	116		ng/L		96	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	110		ng/L		91	70 - 130	0	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	46	*5-	50 - 200
13C6 PFDA	51		50 - 200
13C5 PFHxA	55		50 - 200
13C4 PFHpA	55		50 - 200
13C8 PFOA	53		50 - 200
13C9 PFNA	53		50 - 200
13C7 PFUnA	56		50 - 200
13C2 PFDoA	60		50 - 200
13C4 PFBA	59		50 - 200
13C5 PFPeA	55		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	129		50 - 200
13C2-6:2-FTS	124		50 - 200
13C2-8:2-FTS	118		50 - 200

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-166475/20-A

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 166475

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		08/02/25 15:40	08/03/25 13:22	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<0.25		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/02/25 15:40	08/03/25 13:22	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C6 PFDA	103		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C5 PFHxA	104		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C4 PFHpA	104		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C8 PFOA	104		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C9 PFNA	101		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C7 PFUnA	94		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C2 PFDoA	90		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C4 PFBA	104		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C5 PFPeA	100		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C3 PFBS	103		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C3 PFHxS	103		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C8 PFOS	98		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C2-4:2-FTS	111		50 - 200	08/02/25 15:40	08/03/25 13:22	1
13C2-6:2-FTS	104		50 - 200	08/02/25 15:40	08/03/25 13:22	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-166475/20-A
Matrix: Water
Analysis Batch: 166511

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 166475

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	91		50 - 200	08/02/25 15:40	08/03/25 13:22	1

Lab Sample ID: LCS 380-166475/22-A
Matrix: Water
Analysis Batch: 166511

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 166475

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	120	120		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	120	118		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	123		ng/L		102	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	113		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	125		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	120	127		ng/L		105	70 - 130
Perfluorododecanoic acid (PFDoA)	120	124		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	128		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	118		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	120	126		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	120	124		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	124		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	120	124		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	128		ng/L		107	70 - 130
Perfluorobutanoic acid (PFBA)	120	129		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	119		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	116		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	124		ng/L		103	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	119		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	123		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	124		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	120	120		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	124		ng/L		103	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	119		ng/L		99	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	99		50 - 200

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-166475/22-A

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166475

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C4 PFHpA	99		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	103		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	90		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	100		50 - 200
13C2-4:2-FTS	111		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	91		50 - 200

Lab Sample ID: MRL 380-166475/21-A

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166475

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.01	J	ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.90	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.19	J	ng/L		109	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.16	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.27	J	ng/L		113	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.16	J	ng/L		108	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.35	J	ng/L		117	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.17	J	ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.18	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.28	J	ng/L		113	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.32	J	ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.29	J	ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.29	J	ng/L		114	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.13	J	ng/L		106	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.37	J	ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.29	J	ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.37	J	ng/L		118	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.16	J	ng/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfoni acid (PFEEESA)	2.01	1.94	J	ng/L		96	50 - 150

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-166475/21-A

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166475

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.31	J	ng/L		115	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.24	J	ng/L		111	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.06	J	ng/L		103	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	96		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	101		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	88		50 - 200
13C4 PFBA	101		50 - 200
13C5 PFPeA	104		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	99		50 - 200
13C2-4:2-FTS	108		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	86		50 - 200

Lab Sample ID: 380-163802-B-1-A MS

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 166475

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.6	60.0		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.6	57.3		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.6	68.4		ng/L		113	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.6	54.2		ng/L		89	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.6	60.6		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.6	65.8		ng/L		109	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.6	63.8		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.6	66.3		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.6	63.0		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.6	69.7		ng/L		115	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.6	63.5		ng/L		105	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.6	62.4		ng/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-163802-B-1-A MS

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 166475

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	<2.0		60.6	63.4		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.6	66.2		ng/L		109	70 - 130
Perfluorobutanoic acid (PFBA)	3.5		60.6	57.2		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.6	63.3		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.6	61.1		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.6	61.5		ng/L		101	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		60.6	65.6		ng/L		108	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.6	58.7		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.6	70.7		ng/L		117	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.6	68.4		ng/L		113	70 - 130
Perfluoropentanoic acid (PFPeA)	3.9		60.6	56.8		ng/L		87	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.6	61.0		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.6	60.7		ng/L		100	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	108		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	83		50 - 200
13C4 PFHpA	90		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	91		50 - 200
13C4 PFBA	89		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	101		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	100		50 - 200
13C2-6:2-FTS	113		50 - 200
13C2-8:2-FTS	98		50 - 200

Lab Sample ID: 380-163802-C-1-A MSD

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 166475

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		60.5	60.7		ng/L		100	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	60.4		ng/L		100	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	69.1		ng/L		114	70 - 130	1	30

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-163802-C-1-A MSD

Matrix: Water

Analysis Batch: 166511

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 166475

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.5	53.0		ng/L		88	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.5	64.1		ng/L		106	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		60.5	66.2		ng/L		109	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	61.5		ng/L		102	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	67.0		ng/L		111	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.5	61.8		ng/L		102	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.5	68.2		ng/L		113	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		60.5	64.2		ng/L		106	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.5	64.4		ng/L		106	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		60.5	65.7		ng/L		109	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	67.4		ng/L		111	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	3.5		60.5	57.9		ng/L		90	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	64.9		ng/L		107	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	62.2		ng/L		103	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	62.5		ng/L		103	70 - 130	2	30
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		60.5	66.2		ng/L		110	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.5	61.6		ng/L		102	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	70.4		ng/L		116	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	66.9		ng/L		111	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	3.9		60.5	57.7		ng/L		89	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	61.9		ng/L		102	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	60.8		ng/L		101	70 - 130	0	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	95		50 - 200
13C5 PFHxA	81		50 - 200
13C4 PFHpA	85		50 - 200
13C8 PFOA	94		50 - 200
13C9 PFNA	99		50 - 200
13C7 PFUnA	87		50 - 200
13C2 PFDoA	83		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	125		50 - 200
13C3 PFBS	92		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	98		50 - 200
13C2-4:2-FTS	96		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	95		50 - 200

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-166056/21-A

Matrix: Water

Analysis Batch: 166135

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 166056

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		07/31/25 03:30	07/31/25 18:42	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		07/31/25 03:30	07/31/25 18:42	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		70 - 130	07/31/25 03:30	07/31/25 18:42	1
13C2 PFHxA	104		70 - 130	07/31/25 03:30	07/31/25 18:42	1
13C2 PFDA	103		70 - 130	07/31/25 03:30	07/31/25 18:42	1
13C3-GenX	111		70 - 130	07/31/25 03:30	07/31/25 18:42	1

Lab Sample ID: LCS 380-166056/23-A

Matrix: Water

Analysis Batch: 166135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	52.1		ng/L		104	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.1	51.2		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	51.1		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	51.4		ng/L		103	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	48.6		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	48.0		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	51.4		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	51.4		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	51.5		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	53.4		ng/L		106	70 - 130

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QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-166056/23-A

Matrix: Water

Analysis Batch: 166135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166056

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid (PFBS)	50.1	50.2		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	49.4		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	50.1	49.0		ng/L		98	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	49.1		ng/L		98	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	50.1	53.4		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	49.4		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	45.2		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	51.2		ng/L		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	106		70 - 130
13C3-GenX	108		70 - 130

Lab Sample ID: MRL 380-166056/22-A

Matrix: Water

Analysis Batch: 166135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166056

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.32	J	ng/L		116	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.16	J	ng/L		108	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.12	J	ng/L		106	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.01	J	ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.15	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.22	J	ng/L		111	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.05	J	ng/L		102	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-166056/22-A

Matrix: Water

Analysis Batch: 166135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 166056

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.94	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.17	J	ng/L		109	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
d5-NEtFOSAA	96		70 - 130				
13C2 PFHxA	103		70 - 130				
13C2 PFDA	108		70 - 130				
13C3-GenX	108		70 - 130				

Lab Sample ID: 380-163430-B-1-A MS

Matrix: Water

Analysis Batch: 166135

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 166056

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	27.5		ng/L		110	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.0		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.5		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.8		ng/L		107	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	25.6		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.6		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.6		ng/L		110	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	28.0		ng/L		108	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.4		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	28.4		ng/L		108	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.4		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	26.3		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	26.3		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	25.0		ng/L		100	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	27.4		ng/L		109	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	25.6		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	22.6		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	27.2		ng/L		108	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-163430-B-1-A MS
Matrix: Water
Analysis Batch: 166135

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 166056

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
13C3-GenX	115		70 - 130

Lab Sample ID: 380-163430-C-1-A MSD
Matrix: Water
Analysis Batch: 166135

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 166056

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.2	27.5		ng/L		109	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	26.6		ng/L		106	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	26.4		ng/L		105	70 - 130	0	30
N-methylperfluorooctanesulfonamide doacetic acid (NMeFOSAA)	<2.0		25.2	26.4		ng/L		105	70 - 130	1	30
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		25.2	25.0		ng/L		99	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	26.8		ng/L		103	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	26.4		ng/L		105	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		25.2	27.3		ng/L		105	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		25.2	26.4		ng/L		105	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	28.1		ng/L		107	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	26.1		ng/L		101	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	2.0		25.2	26.1		ng/L		104	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		25.2	25.8		ng/L		102	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	24.5		ng/L		97	70 - 130	2	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.2	27.4		ng/L		109	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	24.5		ng/L		97	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	22.7		ng/L		90	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	27.4		ng/L		109	70 - 130	1	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	111		70 - 130
13C3-GenX	117		70 - 130

QC Association Summary

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS

Prep Batch: 166056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-1	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-163439-2	Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
380-163439-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-163439-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
MBL 380-166056/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-166056/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-166056/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-163430-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-163430-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 166135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1	166056
MBL 380-166056/21-A	Method Blank	Total/NA	Water	537.1	166056
LCS 380-166056/23-A	Lab Control Sample	Total/NA	Water	537.1	166056
MRL 380-166056/22-A	Lab Control Sample	Total/NA	Water	537.1	166056
380-163430-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	166056
380-163430-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	166056

Prep Batch: 166179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	
380-163439-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-166179/20-A	Method Blank	Total/NA	Water	533	
LCS 380-166179/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-166179/21-A	Lab Control Sample	Total/NA	Water	533	
380-163342-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-163342-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 166302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	166179
380-163439-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	166179
MBL 380-166179/20-A	Method Blank	Total/NA	Water	533	166179
LCS 380-166179/22-A	Lab Control Sample	Total/NA	Water	533	166179
MRL 380-166179/21-A	Lab Control Sample	Total/NA	Water	533	166179
380-163342-E-1-A MS	Matrix Spike	Total/NA	Water	533	166179
380-163342-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	166179

Analysis Batch: 166350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1	166056

Analysis Batch: 166464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-1	Ka'amilo Wells P1	Total/NA	Water	537.1	166056
380-163439-2	Ka'amilo Wells P2	Total/NA	Water	537.1	166056

Prep Batch: 166475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-1	Ka'amilo Wells P1	Total/NA	Water	533	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS (Continued)

Prep Batch: 166475 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-2	Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-166475/20-A	Method Blank	Total/NA	Water	533	
LCS 380-166475/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-166475/21-A	Lab Control Sample	Total/NA	Water	533	
380-163802-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-163802-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 166511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-163439-1	Ka'amilo Wells P1	Total/NA	Water	533	166475
380-163439-2	Ka'amilo Wells P2	Total/NA	Water	533	166475
MBL 380-166475/20-A	Method Blank	Total/NA	Water	533	166475
LCS 380-166475/22-A	Lab Control Sample	Total/NA	Water	533	166475
MRL 380-166475/21-A	Lab Control Sample	Total/NA	Water	533	166475
380-163802-B-1-A MS	Matrix Spike	Total/NA	Water	533	166475
380-163802-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	166475

Lab Chronicle

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

Job ID: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Date Collected: 07/28/25 10:59

Date Received: 07/30/25 10:13

Lab Sample ID: 380-163439-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			166475	N8NE	EA POM	08/02/25 15:40
Total/NA	Analysis	533		1	166511	M7ML	EA POM	08/03/25 15:16
Total/NA	Prep	537.1 DW			166056	G9MN	EA POM	07/31/25 03:30
Total/NA	Analysis	537.1		1	166464	Y5FM	EA POM	08/02/25 15:41

Client Sample ID: Ka'amilo Wells P2

Date Collected: 07/28/25 11:43

Date Received: 07/30/25 10:13

Lab Sample ID: 380-163439-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			166475	N8NE	EA POM	08/02/25 15:40
Total/NA	Analysis	533		1	166511	M7ML	EA POM	08/03/25 15:26
Total/NA	Prep	537.1 DW			166056	G9MN	EA POM	07/31/25 03:30
Total/NA	Analysis	537.1		1	166464	Y5FM	EA POM	08/02/25 15:52

Client Sample ID: FB: Ka'amilo Wells P1

Date Collected: 07/28/25 10:59

Date Received: 07/30/25 10:13

Lab Sample ID: 380-163439-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			166179	E2HD	EA POM	07/31/25 17:15
Total/NA	Analysis	533		1	166302	SZ9R	EA POM	08/01/25 12:00
Total/NA	Prep	537.1 DW			166056	G9MN	EA POM	07/31/25 03:30
Total/NA	Analysis	537.1		1	166350	Y5FM	EA POM	08/01/25 15:16

Client Sample ID: FB: Ka'amilo Wells P2

Date Collected: 07/28/25 11:43

Date Received: 07/30/25 10:13

Lab Sample ID: 380-163439-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			166179	E2HD	EA POM	07/31/25 17:15
Total/NA	Analysis	533		1	166302	SZ9R	EA POM	08/01/25 12:09
Total/NA	Prep	537.1 DW			166056	G9MN	EA POM	07/31/25 03:30
Total/NA	Analysis	537.1		1	166135	SZ9R	EA POM	07/31/25 22:48

Laboratory References:

EA POM = Eurofins Eaton Analytical 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: 380-163439-1
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
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Method Summary

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

Job ID: 380-163439-1
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: 380-163439-1
SDG: PFAS: Ka'amilo Wells P1/P2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-163439-1	Ka'amilo Wells P1	Water	07/28/25 10:59	07/30/25 10:13	Hawaii
380-163439-2	Ka'amilo Wells P2	Water	07/28/25 11:43	07/30/25 10:13	Hawaii
380-163439-3	FB: Ka'amilo Wells P1	Water	07/28/25 10:59	07/30/25 10:13	Hawaii
380-163439-4	FB: Ka'amilo Wells P2	Water	07/28/25 11:43	07/30/25 10:13	Hawaii

Phone (626) 386-1100

Environment Testing
America

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-163439-1

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

Login Number: 163439

List Number: 1

Creator: Ngo, Theodore

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").	True	
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	