

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

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

JOB NUMBER

380-165918-1

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: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Qualifiers

LCMS

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

Glossary

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

Case Narrative

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

Job ID: 380-165918-1

Job ID: 380-165918-1

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Job Narrative 380-165918-1

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 8/13/2025 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.6°C.

PFAS

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

Detection Summary

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-165918-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.6		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.9		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.5		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.4		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)	3.7		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-165918-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.0		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.7		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.0		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)	3.3		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.4		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-165918-3

No Detections.

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-165918-4

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: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-165918-1

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorobutanesulfonic acid (PFBS)	2.6		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorooctanesulfonic acid (PFOS)	3.9		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorooctanoic acid (PFOA)	3.5		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoropentanoic acid (PFPeA)	3.4		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/14/25 20:25	08/15/25 22:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C6 PFDA	100		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C5 PFHxA	98		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C4 PFHpA	98		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C8 PFOA	100		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C9 PFNA	96		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C7 PFUnA	103		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C2 PFDoA	111		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C4 PFBA	103		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C5 PFPeA	105		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C3 PFBS	113		50 - 200	08/14/25 20:25	08/15/25 22:21	1

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Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-165918-1

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	115		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C8 PFOS	112		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C2-4:2-FTS	123		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C2-6:2-FTS	124		50 - 200	08/14/25 20:25	08/15/25 22:21	1
13C2-8:2-FTS	118		50 - 200	08/14/25 20:25	08/15/25 22:21	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		08/14/25 03:35	08/14/25 23:37	1
Perfluorooctanesulfonic acid (PFOS)	4.2		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorohexanoic acid (PFHxA)	3.5		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorooctanoic acid (PFOA)	3.7		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130	08/14/25 03:35	08/14/25 23:37	1
13C2 PFHxA	101		70 - 130	08/14/25 03:35	08/14/25 23:37	1
13C2 PFDA	107		70 - 130	08/14/25 03:35	08/14/25 23:37	1
13C3-GenX	100		70 - 130	08/14/25 03:35	08/14/25 23:37	1

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-165918-2

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1

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Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-165918-2

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorohexanesulfonic acid (PFHxS)	3.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorohexanoic acid (PFHxA)	2.9		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorooctanoic acid (PFOA)	2.7		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoropentanoic acid (PFPeA)	3.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 12:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	103		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C6 PFDA	106		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C5 PFHxA	102		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C4 PFHpA	111		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C8 PFOA	111		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C9 PFNA	111		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C7 PFUnA	105		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C2 PFDoA	107		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C4 PFBA	110		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C5 PFPeA	115		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C3 PFBS	105		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C3 PFHxS	105		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C8 PFOS	110		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C2-4:2-FTS	111		50 - 200	08/15/25 14:52	08/16/25 12:59	1
13C2-6:2-FTS	108		50 - 200	08/15/25 14:52	08/16/25 12:59	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-165918-2

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

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	111		50 - 200	08/15/25 14:52	08/16/25 12:59	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		08/14/25 03:35	08/14/25 23:47	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorooctanoic acid (PFOA)	3.4		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		70 - 130			08/14/25 03:35	08/14/25 23:47	1
13C2 PFHxA	103		70 - 130			08/14/25 03:35	08/14/25 23:47	1
13C2 PFDA	110		70 - 130			08/14/25 03:35	08/14/25 23:47	1
13C3-GenX	104		70 - 130			08/14/25 03:35	08/14/25 23:47	1

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-165918-3

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-165918-3

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C6 PFDA	108		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C5 PFHxA	111		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C4 PFHpA	113		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C8 PFOA	110		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C9 PFNA	112		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C7 PFUnA	108		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C2 PFDoA	108		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C4 PFBA	107		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C5 PFPeA	101		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C3 PFBS	104		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C3 PFHxS	102		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C8 PFOS	111		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C2-4:2-FTS	110		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C2-6:2-FTS	106		50 - 200	08/15/25 14:52	08/16/25 13:09	1
13C2-8:2-FTS	105		50 - 200	08/15/25 14:52	08/16/25 13:09	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		08/14/25 03:35	08/14/25 23:57	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-165918-3

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/25 03:35	08/14/25 23:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		70 - 130			08/14/25 03:35	08/14/25 23:57	1
13C2 PFHxA	97		70 - 130			08/14/25 03:35	08/14/25 23:57	1
13C2 PFDA	104		70 - 130			08/14/25 03:35	08/14/25 23:57	1
13C3-GenX	91		70 - 130			08/14/25 03:35	08/14/25 23:57	1

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-165918-4

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-165918-4

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/15/25 14:52	08/16/25 13:18	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C6 PFDA	104		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C5 PFHxA	108		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C4 PFHpA	108		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C8 PFOA	107		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C9 PFNA	106		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C7 PFUnA	100		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C2 PFDoA	105		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C4 PFBA	105		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C5 PFPeA	106		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C3 PFBS	102		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C3 PFHxS	105		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C8 PFOS	109		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C2-4:2-FTS	117		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C2-6:2-FTS	105		50 - 200			08/15/25 14:52	08/16/25 13:18	1
13C2-8:2-FTS	106		50 - 200			08/15/25 14:52	08/16/25 13:18	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		08/14/25 03:35	08/15/25 00:06	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-165918-4

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/14/25 03:35	08/15/25 00:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			08/14/25 03:35	08/15/25 00:06	1
13C2 PFHxA	99		70 - 130			08/14/25 03:35	08/15/25 00:06	1
13C2 PFDA	108		70 - 130			08/14/25 03:35	08/15/25 00:06	1
13C3-GenX	99		70 - 130			08/14/25 03:35	08/15/25 00:06	1

Action Limit Summary

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-165918-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.9		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	3.5		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)	3.7		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		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: 380-165918-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	2.7		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)	3.4		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-165918-3

Compliance Check

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

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

Eurofins Eaton Analytical Pomona

Action Limit Summary

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-165918-3

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-165918-4

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: 380-165918-1
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)
380-165915-B-1-A MS	Matrix Spike	101	98	109	101
380-165915-C-1-A MSD	Matrix Spike Duplicate	98	99	106	100
380-165918-1	Ka'amilo Wells P1	101	101	107	100
380-165918-2	Ka'amilo Wells P2	104	103	110	104
380-165918-3	FB: Ka'amilo Wells P1	94	97	104	91
380-165918-4	FB: Ka'amilo Wells P2	103	99	108	99
LCS 380-168419/22-A	Lab Control Sample	99	94	103	94
MBL 380-168419/20-A	Method Blank	103	104	108	106
MRL 380-168419/21-A	Lab Control Sample	97	97	102	97

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: 380-165918-1
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)
380-165863-B-1-A MS	Matrix Spike	100	107	106	106	107	104	105	107
380-165863-C-1-A MSD	Matrix Spike Duplicate	95	105	103	104	106	104	102	107
380-165914-E-1-B MS	Matrix Spike	112	113	115	116	117	114	108	108
380-165914-F-1-A MSD	Matrix Spike Duplicate	115	117	123	119	122	118	118	121
380-165918-1	Ka'amilo Wells P1	91	100	98	98	100	96	103	111
380-165918-2	Ka'amilo Wells P2	103	106	102	111	111	111	105	107
380-165918-3	FB: Ka'amilo Wells P1	93	108	111	113	110	112	108	108
380-165918-4	FB: Ka'amilo Wells P2	94	104	108	108	107	106	100	105
LCS 380-168604/22-A	Lab Control Sample	108	115	118	118	121	115	113	115
LCS 380-168753/22-A	Lab Control Sample	85	96	91	90	92	94	97	99
MBL 380-168604/20-A	Method Blank	101	111	116	113	119	112	107	110
MBL 380-168753/20-A	Method Blank	80	97	92	96	97	97	98	103
MRL 380-168604/21-A	Lab Control Sample	106	111	118	118	119	116	113	117
MRL 380-168753/21-A	Lab Control Sample	75	89	88	91	92	91	86	91

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)
380-165863-B-1-A MS	Matrix Spike	104	107	108	105	111	114	107	108
380-165863-C-1-A MSD	Matrix Spike Duplicate	105	105	101	101	108	107	104	101
380-165914-E-1-B MS	Matrix Spike	114	117	113	109	109	115	116	109
380-165914-F-1-A MSD	Matrix Spike Duplicate	117	119	119	116	117	126	121	115
380-165918-1	Ka'amilo Wells P1	103	105	113	115	112	123	124	118
380-165918-2	Ka'amilo Wells P2	110	115	105	105	110	111	108	111
380-165918-3	FB: Ka'amilo Wells P1	107	101	104	102	111	110	106	105
380-165918-4	FB: Ka'amilo Wells P2	105	106	102	105	109	117	105	106
LCS 380-168604/22-A	Lab Control Sample	118	116	120	114	116	119	119	113
LCS 380-168753/22-A	Lab Control Sample	97	89	98	95	103	104	101	103
MBL 380-168604/20-A	Method Blank	114	113	114	116	115	121	122	111
MBL 380-168753/20-A	Method Blank	100	94	99	100	107	101	101	99
MRL 380-168604/21-A	Lab Control Sample	116	115	114	112	116	126	118	112
MRL 380-168753/21-A	Lab Control Sample	92	86	108	104	111	111	105	112

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: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-168604/20-A

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 168604

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/14/25 20:25	08/15/25 18:14	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	101		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C6 PFDA	111		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C5 PFHxA	116		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C4 PFHpA	113		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C8 PFOA	119		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C9 PFNA	112		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C7 PFUnA	107		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C2 PFDoA	110		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C4 PFBA	114		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C5 PFPeA	113		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C3 PFBS	114		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C3 PFHxS	116		50 - 200	08/14/25 20:25	08/15/25 18:14	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-168604/20-A

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 168604

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	115		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C2-4:2-FTS	121		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C2-6:2-FTS	122		50 - 200	08/14/25 20:25	08/15/25 18:14	1
13C2-8:2-FTS	111		50 - 200	08/14/25 20:25	08/15/25 18:14	1

Lab Sample ID: LCS 380-168604/22-A

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	100		ng/L		83	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	120	104		ng/L		87	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	104		ng/L		87	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	106		ng/L		88	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	104		ng/L		86	70 - 130
Perfluorodecanoic acid (PFDA)	120	106		ng/L		88	70 - 130
Perfluorododecanoic acid (PFDaA)	120	110		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	103		ng/L		85	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	103		ng/L		86	70 - 130
Perfluorohexanoic acid (PFHxA)	120	106		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	120	106		ng/L		88	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	104		ng/L		86	70 - 130
Perfluorooctanoic acid (PFOA)	120	102		ng/L		85	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	106		ng/L		88	70 - 130
Perfluorobutanoic acid (PFBA)	120	104		ng/L		86	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	108		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	105		ng/L		87	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	108		ng/L		90	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	100		ng/L		83	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	99.1		ng/L		82	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	102		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	106		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	120	108		ng/L		90	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	108		ng/L		89	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-168604/22-A

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	107		ng/L		89	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	108		50 - 200				
13C6 PFDA	115		50 - 200				
13C5 PFHxA	118		50 - 200				
13C4 PFHpA	118		50 - 200				
13C8 PFOA	121		50 - 200				
13C9 PFNA	115		50 - 200				
13C7 PFUnA	113		50 - 200				
13C2 PFDoA	115		50 - 200				
13C4 PFBA	118		50 - 200				
13C5 PFPeA	116		50 - 200				
13C3 PFBS	120		50 - 200				
13C3 PFHxS	114		50 - 200				
13C8 PFOS	116		50 - 200				
13C2-4:2-FTS	119		50 - 200				
13C2-6:2-FTS	119		50 - 200				
13C2-8:2-FTS	113		50 - 200				

Lab Sample ID: MRL 380-168604/21-A

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.92	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.01	1.79	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.88	J	ng/L		94	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.79	J	ng/L		89	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.92	J	ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.01	J	ng/L		100	50 - 150

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-168604/21-A

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	1.93	J	ng/L		96	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	1.92	J	ng/L		96	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	1.96	J	ng/L		98	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.74	J	ng/L		87	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.94	J	ng/L		96	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.85	J	ng/L		92	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.88	J	ng/L		94	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.05	J	ng/L		102	50 - 150

Isotope Dilution	%Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	111		50 - 200
13C5 PFHxA	118		50 - 200
13C4 PFHpA	118		50 - 200
13C8 PFOA	119		50 - 200
13C9 PFNA	116		50 - 200
13C7 PFUnA	113		50 - 200
13C2 PFDoA	117		50 - 200
13C4 PFBA	116		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	114		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	126		50 - 200
13C2-6:2-FTS	118		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-165914-E-1-B MS

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	99.5		ng/L		82	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	106		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	102		ng/L		85	70 - 130

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-165914-E-1-B MS

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		121	110		ng/L		91	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	108		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	107		ng/L		89	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	110		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	105		ng/L		87	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	108		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	109		ng/L		90	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	108		ng/L		89	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	108		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	107		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	109		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	109		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	106		ng/L		88	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	106		ng/L		88	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		121	102		ng/L		84	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	105		ng/L		87	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	107		ng/L		89	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	106		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	107		ng/L		89	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	115		ng/L		95	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	112		ng/L		92	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	112		50 - 200
13C6 PFDA	113		50 - 200
13C5 PFHxA	115		50 - 200
13C4 PFHpA	116		50 - 200
13C8 PFOA	117		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	114		50 - 200
13C5 PFPeA	117		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	109		50 - 200

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-165914-E-1-B MS

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168604

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	115		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	109		50 - 200

Lab Sample ID: 380-165914-F-1-A MSD

Matrix: Water

Analysis Batch: 168686

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 168604

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	102		ng/L		84	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		121	102		ng/L		85	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	102		ng/L		84	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	101		ng/L		84	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	101		ng/L		84	70 - 130	6	30
Perfluorodecanoic acid (PFDA)	<2.0		121	103		ng/L		86	70 - 130	3	30
Perfluorododecanoic acid (PFDaA)	<2.0		121	106		ng/L		88	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	103		ng/L		85	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	102		ng/L		85	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	102		ng/L		85	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		121	107		ng/L		89	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	106		ng/L		88	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		121	103		ng/L		85	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	103		ng/L		86	70 - 130	7	30
Perfluorobutanoic acid (PFBA)	<2.0		121	107		ng/L		88	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	107		ng/L		89	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	101		ng/L		84	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	104		ng/L		86	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	90.2		ng/L		75	70 - 130	12	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		121	101		ng/L		84	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	103		ng/L		85	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	103		ng/L		85	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	99.2		ng/L		82	70 - 130	8	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	106		ng/L		88	70 - 130	8	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	104		ng/L		86	70 - 130	7	30

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	115		50 - 200
13C6 PFDA	117		50 - 200
13C5 PFHxA	123		50 - 200
13C4 PFHpA	119		50 - 200
13C8 PFOA	122		50 - 200
13C9 PFNA	118		50 - 200
13C7 PFUnA	118		50 - 200
13C2 PFDoA	121		50 - 200
13C4 PFBA	117		50 - 200
13C5 PFPeA	119		50 - 200
13C3 PFBS	119		50 - 200
13C3 PFHxS	116		50 - 200
13C8 PFOS	117		50 - 200
13C2-4:2-FTS	126		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: MBL 380-168753/20-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 168753

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-168753/20-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 168753

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/15/25 14:52	08/16/25 11:14	1
Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C6 PFDA	97		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C5 PFHxA	92		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C4 PFHpA	96		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C8 PFOA	97		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C9 PFNA	97		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C7 PFUnA	98		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C2 PFDoA	103		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C4 PFBA	100		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C5 PFPeA	94		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C3 PFBS	99		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C3 PFHxS	100		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C8 PFOS	107		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C2-4:2-FTS	101		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C2-6:2-FTS	101		50 - 200			08/15/25 14:52	08/16/25 11:14	1
13C2-8:2-FTS	99		50 - 200			08/15/25 14:52	08/16/25 11:14	1

Lab Sample ID: LCS 380-168753/22-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	118		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	115		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	117		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	116		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	125		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	120	119		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	120	121		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	128		ng/L		106	70 - 130
Perfluorohexanoic acid (PFHxA)	120	118		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	120	125		ng/L		104	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	122		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	120	122		ng/L		101	70 - 130

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-168753/22-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	120	121		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	122		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	122		ng/L		101	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	119		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	117		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	125		ng/L		104	70 - 130
Perfluoropentanoic acid (PFPeA)	120	129		ng/L		107	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	117		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	125		ng/L		104	70 - 130

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	85		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	91		50 - 200
13C4 PFHpA	90		50 - 200
13C8 PFOA	92		50 - 200
13C9 PFNA	94		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	99		50 - 200
13C4 PFBA	97		50 - 200
13C5 PFPeA	89		50 - 200
13C3 PFBS	98		50 - 200
13C3 PFHxS	95		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	101		50 - 200
13C2-8:2-FTS	103		50 - 200

Lab Sample ID: MRL 380-168753/21-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.91	J	ng/L		95	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.01	1.65	J	ng/L		82	50 - 150

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-168753/21-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.80	J	ng/L		90	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.83	J	ng/L		91	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.96	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.74	J	ng/L		87	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.00	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	1.95	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.06	J	ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.13	J	ng/L		106	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.76	J	ng/L		87	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.73	J	ng/L		86	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.97	J	ng/L		98	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.91	J	ng/L		95	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	75		50 - 200
13C6 PFDA	89		50 - 200
13C5 PFHxA	88		50 - 200
13C4 PFHpA	91		50 - 200
13C8 PFOA	92		50 - 200
13C9 PFNA	91		50 - 200
13C7 PFUnA	86		50 - 200
13C2 PFDoA	91		50 - 200
13C4 PFBA	92		50 - 200
13C5 PFPeA	86		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	104		50 - 200

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-168753/21-A

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168753

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	111		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-165863-B-1-A MS

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	61.4		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		60.4	55.8		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	63.2		ng/L		105	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	60.4		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	63.9		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	60.4		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDaA)	<2.0		60.4	62.7		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	62.8		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	65.6		ng/L		109	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	62.3		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	65.5		ng/L		109	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	62.1		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	60.4		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	60.9		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	60.5		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	64.7		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	61.7		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	65.5		ng/L		108	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	61.4		ng/L		102	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		60.4	60.6		ng/L		100	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	61.7		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	60.6		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	61.7		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	61.8		ng/L		102	70 - 130

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-165863-B-1-A MS

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	63.9		ng/L		106	70 - 130
	MS %Recovery	MS Qualifier	Limits						
13C3 HFPO-DA	100		50 - 200						
13C6 PFDA	107		50 - 200						
13C5 PFHxA	106		50 - 200						
13C4 PFHpA	106		50 - 200						
13C8 PFOA	107		50 - 200						
13C9 PFNA	104		50 - 200						
13C7 PFUnA	105		50 - 200						
13C2 PFDoA	107		50 - 200						
13C4 PFBA	104		50 - 200						
13C5 PFPeA	107		50 - 200						
13C3 PFBS	108		50 - 200						
13C3 PFHxS	105		50 - 200						
13C8 PFOS	111		50 - 200						
13C2-4:2-FTS	114		50 - 200						
13C2-6:2-FTS	107		50 - 200						
13C2-8:2-FTS	108		50 - 200						

Lab Sample ID: 380-165863-C-1-A MSD

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	58.1		ng/L		96	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		60.4	54.4		ng/L		90	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	62.8		ng/L		104	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	60.0		ng/L		99	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	63.0		ng/L		104	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.4	62.6		ng/L		104	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	61.6		ng/L		102	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	61.5		ng/L		102	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	63.5		ng/L		105	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	61.6		ng/L		102	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.4	63.6		ng/L		105	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	60.0		ng/L		99	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		60.4	59.8		ng/L		99	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	62.1		ng/L		103	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		60.4	60.2		ng/L		100	70 - 130	0	30

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-165863-C-1-A MSD

Matrix: Water

Analysis Batch: 168853

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 168753

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	65.5		ng/L		109	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	60.6		ng/L		100	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	62.6		ng/L		104	70 - 130	4	30
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		60.4	61.6		ng/L		102	70 - 130	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFESA)	<2.0		60.4	58.7		ng/L		97	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	61.8		ng/L		102	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	62.7		ng/L		104	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	65.1		ng/L		108	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	60.4		ng/L		100	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	65.2		ng/L		108	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	95		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	104		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	101		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	101		50 - 200

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

Lab Sample ID: MBL 380-168419/20-A

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 168419

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		08/14/25 03:35	08/14/25 21:59	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1

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QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-168419/20-A

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 168419

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/14/25 03:35	08/14/25 21:59	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130	08/14/25 03:35	08/14/25 21:59	1
13C2 PFHxA	104		70 - 130	08/14/25 03:35	08/14/25 21:59	1
13C2 PFDA	108		70 - 130	08/14/25 03:35	08/14/25 21:59	1
13C3-GenX	106		70 - 130	08/14/25 03:35	08/14/25 21:59	1

Lab Sample ID: LCS 380-168419/22-A

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168419

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.0	48.1		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.0	50.5		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	52.2		ng/L		104	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	48.6		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	48.9		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	47.4		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	50.2		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	50.0		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	50.5		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	51.4		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	49.7		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	47.3		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	50.0	51.1		ng/L		102	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-168419/22-A

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168419

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTA)	50.0	47.1		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	53.7		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	50.0	50.8		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	52.0		ng/L		104	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	47.7		ng/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	94		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	94		70 - 130

Lab Sample ID: MRL 380-168419/21-A

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168419

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.16	J	ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.33	J	ng/L		116	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.31	J	ng/L		115	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.26	J	ng/L		113	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.35	J	ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.39	J	ng/L		119	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.27	J	ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.17	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.40	J	ng/L		120	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.53	J	ng/L		126	50 - 150
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.25	J	ng/L		112	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-168419/21-A

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 168419

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.29	J	ng/L		114	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.32	J	ng/L		116	50 - 150

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

Lab Sample ID: 380-165915-B-1-A MS

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168419

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	49.4		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	50.0		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	51.2		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	48.4		ng/L		96	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	49.4		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	50.2		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDaA)	<2.0		50.2	51.3		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.2	50.1		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.2	51.9		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	50.2		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	49.7		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.0		50.2	50.4		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.2	52.0		ng/L		104	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	42.9		ng/L		86	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	53.4		ng/L		106	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	49.7		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	51.7		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	49.7		ng/L		99	70 - 130

QC Sample Results

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-165915-B-1-A MS

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 168419

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	98		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	101		70 - 130

Lab Sample ID: 380-165915-C-1-A MSD

Matrix: Water

Analysis Batch: 168528

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 168419

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide	<2.0		50.2	50.2		ng/L		100	70 - 130	2	30
Dimer Acid (HFPO-DA/GenX)											
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	50.8		ng/L		101	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	52.6		ng/L		105	70 - 130	3	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	48.1		ng/L		96	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	49.4		ng/L		98	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	50.6		ng/L		101	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	51.3		ng/L		102	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	51.2		ng/L		102	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	51.2		ng/L		102	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	50.9		ng/L		101	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	50.9		ng/L		101	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	50.4		ng/L		100	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	50.3		ng/L		100	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	43.3		ng/L		86	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	53.2		ng/L		106	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	52.2		ng/L		104	70 - 130	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	52.5		ng/L		105	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	49.0		ng/L		98	70 - 130	2	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	99		70 - 130
13C2 PFDA	106		70 - 130
13C3-GenX	100		70 - 130

QC Association Summary

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS

Prep Batch: 168419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-165918-1	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-165918-2	Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
380-165918-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-165918-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
MBL 380-168419/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-168419/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-168419/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-165915-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-165915-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 168528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-165918-1	Ka'amilo Wells P1	Total/NA	Water	537.1	168419
380-165918-2	Ka'amilo Wells P2	Total/NA	Water	537.1	168419
380-165918-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1	168419
380-165918-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1	168419
MBL 380-168419/20-A	Method Blank	Total/NA	Water	537.1	168419
LCS 380-168419/22-A	Lab Control Sample	Total/NA	Water	537.1	168419
MRL 380-168419/21-A	Lab Control Sample	Total/NA	Water	537.1	168419
380-165915-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	168419
380-165915-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	168419

Prep Batch: 168604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-165918-1	Ka'amilo Wells P1	Total/NA	Water	533	
MBL 380-168604/20-A	Method Blank	Total/NA	Water	533	
LCS 380-168604/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-168604/21-A	Lab Control Sample	Total/NA	Water	533	
380-165914-E-1-B MS	Matrix Spike	Total/NA	Water	533	
380-165914-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 168686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-165918-1	Ka'amilo Wells P1	Total/NA	Water	533	168604
MBL 380-168604/20-A	Method Blank	Total/NA	Water	533	168604
LCS 380-168604/22-A	Lab Control Sample	Total/NA	Water	533	168604
MRL 380-168604/21-A	Lab Control Sample	Total/NA	Water	533	168604
380-165914-E-1-B MS	Matrix Spike	Total/NA	Water	533	168604
380-165914-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	168604

Prep Batch: 168753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-165918-2	Ka'amilo Wells P2	Total/NA	Water	533	
380-165918-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	
380-165918-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-168753/20-A	Method Blank	Total/NA	Water	533	
LCS 380-168753/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-168753/21-A	Lab Control Sample	Total/NA	Water	533	
380-165863-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-165863-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS

Analysis Batch: 168853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-165918-2	Ka'amilo Wells P2	Total/NA	Water	533	168753
380-165918-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	168753
380-165918-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	168753
MBL 380-168753/20-A	Method Blank	Total/NA	Water	533	168753
LCS 380-168753/22-A	Lab Control Sample	Total/NA	Water	533	168753
MRL 380-168753/21-A	Lab Control Sample	Total/NA	Water	533	168753
380-165863-B-1-A MS	Matrix Spike	Total/NA	Water	533	168753
380-165863-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	168753

Lab Chronicle

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

Job ID: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-165918-1

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			168604	E2HD	EA POM	08/14/25 20:25
Total/NA	Analysis	533		1	168686	Y5FM	EA POM	08/15/25 22:21
Total/NA	Prep	537.1 DW			168419	G9MN	EA POM	08/14/25 03:35
Total/NA	Analysis	537.1		1	168528	SZ9R	EA POM	08/14/25 23:37

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-165918-2

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			168753	N8NE	EA POM	08/15/25 14:52
Total/NA	Analysis	533		1	168853	Y5FM	EA POM	08/16/25 12:59
Total/NA	Prep	537.1 DW			168419	G9MN	EA POM	08/14/25 03:35
Total/NA	Analysis	537.1		1	168528	SZ9R	EA POM	08/14/25 23:47

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-165918-3

Date Collected: 08/11/25 12:05

Matrix: Water

Date Received: 08/13/25 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			168753	N8NE	EA POM	08/15/25 14:52
Total/NA	Analysis	533		1	168853	Y5FM	EA POM	08/16/25 13:09
Total/NA	Prep	537.1 DW			168419	G9MN	EA POM	08/14/25 03:35
Total/NA	Analysis	537.1		1	168528	SZ9R	EA POM	08/14/25 23:57

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-165918-4

Date Collected: 08/11/25 12:37

Matrix: Water

Date Received: 08/13/25 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			168753	N8NE	EA POM	08/15/25 14:52
Total/NA	Analysis	533		1	168853	Y5FM	EA POM	08/16/25 13:18
Total/NA	Prep	537.1 DW			168419	G9MN	EA POM	08/14/25 03:35
Total/NA	Analysis	537.1		1	168528	SZ9R	EA POM	08/15/25 00:06

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: 380-165918-1
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: 380-165918-1
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: 380-165918-1
SDG: PFAS: Ka'amilo Wells P1/P2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-165918-1	Ka'amilo Wells P1	Water	08/11/25 12:05	08/13/25 10:20	Hawaii
380-165918-2	Ka'amilo Wells P2	Water	08/11/25 12:37	08/13/25 10:20	Hawaii
380-165918-3	FB: Ka'amilo Wells P1	Water	08/11/25 12:05	08/13/25 10:20	Hawaii
380-165918-4	FB: Ka'amilo Wells P2	Water	08/11/25 12:37	08/13/25 10:20	Hawaii

Monrovia, CA (Suite 100)

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

Chain of Custody Record



Client Information Client Contact: Kirk Iwamoto Phone: +1 808 748 5840		Lab PM: Arada Rachelle E-Mail: Rachelle.Arada@et.eurofins.com	COC No: 380-27941-2757.2 Page: Page 2 of 2 Job #:
City & County of Honolulu Address: 630 South Beretania Street; Chemistry Lab City: Honolulu State, Zip: HI 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Analysis Requested Due Date Requested: TAT Requested (days): RUSH Compliance Project: Δ No PO #: C20525101 exp 05312023 WO #: 38001111 Project #: 38001111 SSOW#:	
Sample Identification Ka'amilo Wells P1 Ka'amilo Wells P2 FB: Ka'amilo Wells P1 FB: Ka'amilo Wells P2	Sample Date: 11-Aug-2025 Sample Time: 1205 Sample Type: G-grab Preservation Code:	Matrix: Water Water Water Water	Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) SUBCONTRACT 625 PAH Physile LL (EAL) + TICs 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS HNL Ranges C10-C24/C24-C36/C8-C18 525 2_PREC - (MOD) 525plus PLUS TICs 537 1_DW_PREC 537 1 Full List 533 All Analytes Total Number of Containers:
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested I II III IV Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months	
Empty Kit Relinquished by:		Method of Shipment: FEDEX 8835 1566 1150	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: (751A) 2.6-0.0-2.6 (see notes)	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-165918-1

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

Login Number: 165918

List Number: 1

Creator: Segura, Ryan

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).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	