

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

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

JOB NUMBER

380-167113-1

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: 380-167113-1
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: 380-167113-1

Job ID: 380-167113-1

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Job Narrative 380-167113-1

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 8/20/2025 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C.

PFAS

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

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Detection Summary

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-167113-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.0		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.5		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)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		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)	3.7		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L	1		537.1	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-167113-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	3.1		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L	1		537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		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: 380-167113-3

No Detections.

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-167113-4

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: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-167113-1

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

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 (11CI-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorohexanesulfonic acid (PFHxS)	3.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorohexanoic acid (PFHxA)	3.5		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorooctanesulfonic acid (PFOS)	3.9		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorooctanoic acid (PFOA)	3.5		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 19:27	08/22/25 20:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C6 PFDA	112		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C5 PFHxA	103		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C4 PFHpA	106		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C8 PFOA	110		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C9 PFNA	106		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C7 PFUnA	114		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C2 PFDoA	115		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C4 PFBA	110		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C5 PFPeA	107		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C3 PFBS	110		50 - 200	08/21/25 19:27	08/22/25 20:05	1

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Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-167113-1

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	105		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C8 PFOS	112		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C2-4:2-FTS	111		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C2-6:2-FTS	117		50 - 200	08/21/25 19:27	08/22/25 20:05	1
13C2-8:2-FTS	113		50 - 200	08/21/25 19:27	08/22/25 20:05	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		08/21/25 03:35	08/21/25 23:37	1
Perfluorooctanesulfonic acid (PFOS)	4.4		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorooctanoic acid (PFOA)	3.7		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorobutanesulfonic acid (PFBS)	2.8		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130	08/21/25 03:35	08/21/25 23:37	1
13C2 PFHxA	111		70 - 130	08/21/25 03:35	08/21/25 23:37	1
13C2 PFDA	115		70 - 130	08/21/25 03:35	08/21/25 23:37	1
13C3-GenX	113		70 - 130	08/21/25 03:35	08/21/25 23:37	1

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-167113-2

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 16:53	08/22/25 11:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1

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Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-167113-2

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 16:53	08/22/25 11:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorobutanesulfonic acid (PFBS)	2.4		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorooctanoic acid (PFOA)	3.1		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoropentanoic acid (PFPeA)	3.1		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C6 PFDA	89		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C5 PFHxA	98		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C4 PFHpA	94		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C8 PFOA	93		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C9 PFNA	89		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C7 PFUnA	86		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C2 PFDoA	83		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C4 PFBA	102		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C5 PFPeA	100		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C3 PFBS	110		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C3 PFHxS	110		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C8 PFOS	103		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C2-4:2-FTS	103		50 - 200	08/21/25 16:53	08/22/25 11:53	1
13C2-6:2-FTS	103		50 - 200	08/21/25 16:53	08/22/25 11:53	1

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Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-167113-2

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

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	105		50 - 200	08/21/25 16:53	08/22/25 11:53	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		08/21/25 03:35	08/22/25 01:41	1
Perfluorooctanesulfonic acid (PFOS)	3.6		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorooctanoic acid (PFOA)	3.3		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	117		70 - 130			08/21/25 03:35	08/22/25 01:41	1
13C2 PFHxA	106		70 - 130			08/21/25 03:35	08/22/25 01:41	1
13C2 PFDA	115		70 - 130			08/21/25 03:35	08/22/25 01:41	1
13C3-GenX	110		70 - 130			08/21/25 03:35	08/22/25 01:41	1

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-167113-3

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 16:53	08/22/25 12:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-167113-3

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 16:53	08/22/25 12:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C6 PFDA	115		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C5 PFHxA	112		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C4 PFHpA	111		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C8 PFOA	113		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C9 PFNA	108		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C7 PFUnA	109		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C2 PFDoA	104		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C4 PFBA	114		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C5 PFPeA	114		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C3 PFBS	112		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C3 PFHxS	112		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C8 PFOS	108		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C2-4:2-FTS	112		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C2-6:2-FTS	109		50 - 200	08/21/25 16:53	08/22/25 12:21	1
13C2-8:2-FTS	116		50 - 200	08/21/25 16:53	08/22/25 12:21	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		08/21/25 03:35	08/22/25 01:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-167113-3

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 03:35	08/22/25 01:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 01:51	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130			08/21/25 03:35	08/22/25 01:51	1
13C2 PFHxA	111		70 - 130			08/21/25 03:35	08/22/25 01:51	1
13C2 PFDA	118		70 - 130			08/21/25 03:35	08/22/25 01:51	1
13C3-GenX	110		70 - 130			08/21/25 03:35	08/22/25 01:51	1

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-167113-4

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 16:53	08/22/25 12:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-167113-4

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 16:53	08/22/25 12:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		08/21/25 16:53	08/22/25 12:12	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	103		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C6 PFDA	110		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C5 PFHxA	109		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C4 PFHpA	109		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C8 PFOA	111		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C9 PFNA	109		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C7 PFUnA	110		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C2 PFDoA	108		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C4 PFBA	109		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C5 PFPeA	109		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C3 PFBS	106		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C3 PFHxS	107		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C8 PFOS	105		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C2-4:2-FTS	113		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C2-6:2-FTS	111		50 - 200			08/21/25 16:53	08/22/25 12:12	1
13C2-8:2-FTS	110		50 - 200			08/21/25 16:53	08/22/25 12:12	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		08/21/25 03:35	08/22/25 02:01	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-167113-4

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

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		08/21/25 03:35	08/22/25 02:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		08/21/25 03:35	08/22/25 02:01	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	114		70 - 130			08/21/25 03:35	08/22/25 02:01	1
13C2 PFHxA	113		70 - 130			08/21/25 03:35	08/22/25 02:01	1
13C2 PFDA	111		70 - 130			08/21/25 03:35	08/22/25 02:01	1
13C3-GenX	107		70 - 130			08/21/25 03:35	08/22/25 02:01	1

Action Limit Summary

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-167113-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.9		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)	4.4		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)	3.3		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-167113-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	3.1		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	3.3		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: FB: Ka'amilo Wells P1

Lab Sample ID: 380-167113-3

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

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Action Limit Summary

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167113-3

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: 380-167113-4

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: 380-167113-1
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)
380-167113-1	Ka'amilo Wells P1	110	111	115	113
380-167113-1 MS	Ka'amilo Wells P1	115	112	117	110
380-167113-1 MSD	Ka'amilo Wells P1	114	116	120	118
380-167113-2	Ka'amilo Wells P2	117	106	115	110
380-167113-3	FB: Ka'amilo Wells P1	109	111	118	110
380-167113-4	FB: Ka'amilo Wells P2	114	113	111	107
LCS 380-169702/22-A	Lab Control Sample	104	111	119	110
MBL 380-169702/20-A	Method Blank	110	107	114	103
MRL 380-169702/21-A	Lab Control Sample	111	106	110	104

Surrogate Legend

d5NEFOS = d5-NEtFOSAA

PFHxA = 13C2 PFHxA

PFDA = 13C2 PFDA

GenX = 13C3-GenX

Isotope Dilution Summary

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

Job ID: 380-167113-1
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)
380-167103-E-1-A MS	Matrix Spike	112	114	111	109	113	109	110	112
380-167103-F-1-A MSD	Matrix Spike Duplicate	113	112	107	111	115	110	107	111
380-167113-1	Ka'amilo Wells P1	104	112	103	106	110	106	114	115
380-167113-2	Ka'amilo Wells P2	89	89	98	94	93	89	86	83
380-167113-2 MS	Ka'amilo Wells P2	91	96	100	99	99	97	97	94
380-167113-2 MSD	Ka'amilo Wells P2	100	102	108	105	105	108	104	103
380-167113-3	FB: Ka'amilo Wells P1	105	115	112	111	113	108	109	104
380-167113-4	FB: Ka'amilo Wells P2	103	110	109	109	111	109	110	108
380-167116-B-1-A MS	Matrix Spike	89	91	94	92	92	91	92	92
380-167116-C-1-A MSD	Matrix Spike Duplicate	91	106	96	96	106	105	107	109
LCS 380-169842/22-A	Lab Control Sample	112	112	106	111	112	108	110	113
LCS 380-169855/22-A	Lab Control Sample	105	109	109	108	107	107	109	107
LCS 380-169856/22-A	Lab Control Sample	104	107	112	113	114	111	109	107
MBL 380-169842/20-A	Method Blank	110	112	108	111	112	109	109	110
MBL 380-169855/20-A	Method Blank	107	115	116	112	117	114	112	111
MBL 380-169856/20-A	Method Blank	107	107	118	117	118	120	109	107
MRL 380-169842/21-A	Lab Control Sample	109	112	112	111	111	109	111	113
MRL 380-169855/21-A	Lab Control Sample	97	106	106	108	109	109	107	103
MRL 380-169856/21-A	Lab Control Sample	97	100	106	105	108	106	105	98

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPaA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-167103-E-1-A MS	Matrix Spike	111	115	110	106	111	102	107	104
380-167103-F-1-A MSD	Matrix Spike Duplicate	110	115	113	111	112	104	111	108
380-167113-1	Ka'amilo Wells P1	110	107	110	105	112	111	117	113
380-167113-2	Ka'amilo Wells P2	102	100	110	110	103	103	103	105
380-167113-2 MS	Ka'amilo Wells P2	101	103	113	108	108	105	104	103
380-167113-2 MSD	Ka'amilo Wells P2	105	109	108	106	107	102	106	107
380-167113-3	FB: Ka'amilo Wells P1	114	114	112	112	108	112	109	116
380-167113-4	FB: Ka'amilo Wells P2	109	109	106	107	105	113	111	110
380-167116-B-1-A MS	Matrix Spike	101	106	104	106	108	104	107	109
380-167116-C-1-A MSD	Matrix Spike Duplicate	98	105	105	107	105	102	106	107
LCS 380-169842/22-A	Lab Control Sample	111	119	111	108	113	100	108	104
LCS 380-169855/22-A	Lab Control Sample	108	110	104	104	105	107	102	101
LCS 380-169856/22-A	Lab Control Sample	113	114	111	108	107	110	108	105
MBL 380-169842/20-A	Method Blank	114	113	112	108	115	103	109	104
MBL 380-169855/20-A	Method Blank	117	122	110	111	112	117	112	114
MBL 380-169856/20-A	Method Blank	116	117	110	113	116	118	108	104
MRL 380-169842/21-A	Lab Control Sample	115	112	111	108	112	107	110	106
MRL 380-169855/21-A	Lab Control Sample	115	116	104	107	108	105	108	104
MRL 380-169856/21-A	Lab Control Sample	109	113	109	107	109	109	104	103

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
13C7PUA = 13C7 PFUnA

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Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

PFD_oA = 13C₂ PFD_oA

PFBA = 13C₄ PFBA

PFP_eA = 13C₅ PFP_eA

C₃PFBS = 13C₃ PFBS

C₃PFHS = 13C₃ PFH_xS

C₈PFOS = 13C₈ PFOS

4₂FTS = 13C₂-4:2-FTS

6₂FTS = 13C₂-6:2-FTS

8₂FTS = 13C₂-8:2-FTS

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-169842/20-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169842

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<0.30		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<0.30		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/21/25 19:27	08/22/25 16:10	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	110		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C6 PFDA	112		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C5 PFHxA	108		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C4 PFHpA	111		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C8 PFOA	112		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C9 PFNA	109		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C7 PFUnA	109		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2 PFDoA	110		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C4 PFBA	114		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C5 PFPeA	113		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C3 PFBS	112		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C3 PFHxS	108		50 - 200	08/21/25 19:27	08/22/25 16:10	1

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-169842/20-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169842

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	115		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2-4:2-FTS	103		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2-6:2-FTS	109		50 - 200	08/21/25 19:27	08/22/25 16:10	1
13C2-8:2-FTS	104		50 - 200	08/21/25 19:27	08/22/25 16:10	1

Lab Sample ID: LCS 380-169842/22-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	109		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	120	113		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	109		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	111		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	117		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	120	114		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	120	115		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	115		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	120	114		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	120	114		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	115		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	120	116		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	116		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	112		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	108		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	116		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	115		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	107		ng/L		89	70 - 130
Perfluoropentanoic acid (PFPeA)	120	109		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	120		ng/L		100	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-169842/22-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	113		ng/L		94	70 - 130
		LCS	LCS				
		%Recovery	Qualifier				Limits
13C3 HFPO-DA		112					50 - 200
13C6 PFDA		112					50 - 200
13C5 PFHxA		106					50 - 200
13C4 PFHpA		111					50 - 200
13C8 PFOA		112					50 - 200
13C9 PFNA		108					50 - 200
13C7 PFUnA		110					50 - 200
13C2 PFDoA		113					50 - 200
13C4 PFBA		111					50 - 200
13C5 PFPeA		119					50 - 200
13C3 PFBS		111					50 - 200
13C3 PFHxS		108					50 - 200
13C8 PFOS		113					50 - 200
13C2-4:2-FTS		100					50 - 200
13C2-6:2-FTS		108					50 - 200
13C2-8:2-FTS		104					50 - 200

Lab Sample ID: MRL 380-169842/21-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.88	J	ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.01	1.85	J	ng/L		92	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.95	J	ng/L		97	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.90	J	ng/L		95	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.00	J	ng/L		99	50 - 150

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-169842/21-A

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.04	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.07	J	ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.01	J	ng/L		100	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.82	J	ng/L		91	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.87	J	ng/L		93	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	111		50 - 200
13C2 PFDoA	113		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	106		50 - 200

Lab Sample ID: 380-167103-E-1-A MS

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	113		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	115		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	110		ng/L		91	70 - 130

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167103-E-1-A MS

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		121	115		ng/L		95	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	119		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	109		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	115		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	118		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	114		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	115		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	118		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	114		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	118		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	116		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	121		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	111		ng/L		92	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		121	112		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	117		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	111		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	113		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	113		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	119		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	113		ng/L		94	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	112		50 - 200
13C6 PFDA	114		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	112		50 - 200
13C4 PFBA	111		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	111		50 - 200

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167103-E-1-A MS

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169842

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-167103-F-1-A MSD

Matrix: Water

Analysis Batch: 170026

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169842

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	110		ng/L		91	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		121	114		ng/L		95	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	111		ng/L		92	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	113		ng/L		93	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	116		ng/L		95	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		121	113		ng/L		94	70 - 130	4	30
Perfluorododecanoic acid (PFDaA)	<2.0		121	115		ng/L		95	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	114		ng/L		93	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	112		ng/L		92	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	121		ng/L		99	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		121	115		ng/L		95	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	117		ng/L		96	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		121	112		ng/L		92	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	119		ng/L		99	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		121	114		ng/L		94	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	117		ng/L		97	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	115		ng/L		95	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	113		ng/L		94	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	115		ng/L		96	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		121	110		ng/L		91	70 - 130	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	113		ng/L		94	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	115		ng/L		96	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	117		ng/L		95	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	116		ng/L		96	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	109		ng/L		90	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-167113-1
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	113		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	107		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	115		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	111		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	111		50 - 200
13C2-8:2-FTS	108		50 - 200

Lab Sample ID: MBL 380-169855/20-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169855

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		08/21/25 16:53	08/22/25 10:46	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-169855/20-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169855

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/21/25 16:53	08/22/25 10:46	1
Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C6 PFDA	115		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C5 PFHxA	116		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C4 PFHpA	112		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C8 PFOA	117		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C9 PFNA	114		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C7 PFUnA	112		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C2 PFDoA	111		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C4 PFBA	117		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C5 PFPeA	122		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C3 PFBS	110		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C3 PFHxS	111		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C8 PFOS	112		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C2-4:2-FTS	117		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C2-6:2-FTS	112		50 - 200			08/21/25 16:53	08/22/25 10:46	1
13C2-8:2-FTS	114		50 - 200			08/21/25 16:53	08/22/25 10:46	1

Lab Sample ID: LCS 380-169855/22-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	63.0		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	60.2	55.8		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	61.6		ng/L		102	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	61.7		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	63.7		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	59.3		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	61.0		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	61.3		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	61.6		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	59.0		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	60.2	61.1		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	63.3		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	59.6		ng/L		99	70 - 130

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-169855/22-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.2	60.4		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	59.8		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	64.2		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	61.9		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	62.8		ng/L		104	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	60.2	61.5		ng/L		102	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	60.2	58.5		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	61.0		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	60.1		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	59.3		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	64.6		ng/L		107	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	61.6		ng/L		102	70 - 130

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	109		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	109		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	110		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: MRL 380-169855/21-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.02	J	ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.01	1.71	J	ng/L		85	50 - 150

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-169855/21-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.06	J	ng/L		103	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.14	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.11	J	ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.21	J	ng/L		110	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.05	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.17	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.26	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.14	J	ng/L		107	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.20	J	ng/L		110	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.10	J	ng/L		105	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.97	J	ng/L		98	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C3 HFPO-DA	97		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	116		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	107		50 - 200

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-169855/21-A

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169855

Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-167116-B-1-A MS

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169855

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	117		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	112		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	120		ng/L		99	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	121		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	121		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	120		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDaA)	<2.0		121	118		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	122		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	122		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	118		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	119		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	124		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	120		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	119		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	119		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	115		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		121	118		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	115		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	113		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	122		ng/L		101	70 - 130

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167116-B-1-A MS

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	118		ng/L		97	70 - 130
	MS %Recovery	MS Qualifier	Limits						
13C3 HFPO-DA	89		50 - 200						
13C6 PFDA	91		50 - 200						
13C5 PFHxA	94		50 - 200						
13C4 PFHpA	92		50 - 200						
13C8 PFOA	92		50 - 200						
13C9 PFNA	91		50 - 200						
13C7 PFUnA	92		50 - 200						
13C2 PFDoA	92		50 - 200						
13C4 PFBA	101		50 - 200						
13C5 PFPeA	106		50 - 200						
13C3 PFBS	104		50 - 200						
13C3 PFHxS	106		50 - 200						
13C8 PFOS	108		50 - 200						
13C2-4:2-FTS	104		50 - 200						
13C2-6:2-FTS	107		50 - 200						
13C2-8:2-FTS	109		50 - 200						

Lab Sample ID: 380-167116-C-1-A MSD

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	122		ng/L		101	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		121	116		ng/L		96	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	115		ng/L		96	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	120		ng/L		99	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	116		ng/L		96	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		121	117		ng/L		97	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	119		ng/L		99	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	119		ng/L		99	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	119		ng/L		98	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	117		ng/L		96	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		121	114		ng/L		95	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	123		ng/L		102	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		121	111		ng/L		92	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	119		ng/L		99	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		121	119		ng/L		98	70 - 130	0	30

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167116-C-1-A MSD

Matrix: Water

Analysis Batch: 170009

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 169855

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	118		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	123		ng/L		102	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	119		ng/L		99	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	117		ng/L		97	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	118		ng/L		98	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	117		ng/L		97	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	112		ng/L		93	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	114		ng/L		93	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	125		ng/L		103	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	120		ng/L		99	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	91		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	98		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: MBL 380-169856/20-A

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169856

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MBL 380-169856/20-A

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169856

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		08/21/25 16:53	08/22/25 11:22	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C6 PFDA	107		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C5 PFHxA	118		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C4 PFHpA	117		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C8 PFOA	118		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C9 PFNA	120		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C7 PFUnA	109		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C2 PFDoA	107		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C4 PFBA	116		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C5 PFPeA	117		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C3 PFBS	110		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C3 PFHxS	113		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C8 PFOS	116		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C2-4:2-FTS	118		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C2-6:2-FTS	108		50 - 200	08/21/25 16:53	08/22/25 11:22	1
13C2-8:2-FTS	104		50 - 200	08/21/25 16:53	08/22/25 11:22	1

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-169856/22-A

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169856

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	113		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	115		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	117		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	121		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	120		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	120	118		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	120	120		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	118		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	120	116		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	120	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	122		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	120	110		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	115		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	116		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	111		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	116		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	118		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	116		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	120	119		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	124		ng/L		103	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	120	120		ng/L		100	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	104		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	114		50 - 200
13C9 PFNA	111		50 - 200

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QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-169856/22-A

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169856

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C7 PFUnA	109		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	113		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	105		50 - 200

Lab Sample ID: MRL 380-169856/21-A

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169856

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.88	J	ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.00	1.94	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.05	J	ng/L		102	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.99	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.15	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.15	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.09	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.06	J	ng/L		103	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.00	J	ng/L		100	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-169856/21-A

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169856

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.97	J	ng/L		98	50 - 150
Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits				
13C3 HFPO-DA	97		50 - 200				
13C6 PFDA	100		50 - 200				
13C5 PFHxA	106		50 - 200				
13C4 PFHpA	105		50 - 200				
13C8 PFOA	108		50 - 200				
13C9 PFNA	106		50 - 200				
13C7 PFUnA	105		50 - 200				
13C2 PFDoA	98		50 - 200				
13C4 PFBA	109		50 - 200				
13C5 PFPeA	113		50 - 200				
13C3 PFBS	109		50 - 200				
13C3 PFHxS	107		50 - 200				
13C8 PFOS	109		50 - 200				
13C2-4:2-FTS	109		50 - 200				
13C2-6:2-FTS	104		50 - 200				
13C2-8:2-FTS	103		50 - 200				

Lab Sample ID: 380-167113-2 MS

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Ka'amilo Wells P2

Prep Type: Total/NA

Prep Batch: 169856

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		60.2	58.1		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		60.2	59.1		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	60.2		ng/L		100	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	63.8		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.4		60.2	64.9		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	62.9		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.5		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	62.5		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.9		60.2	65.7		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	3.0		60.2	64.7		ng/L		102	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167113-2 MS

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Ka'amilo Wells P2

Prep Type: Total/NA

Prep Batch: 169856

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanoic acid (PFNA)	<2.0		60.2	61.1		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.6		60.2	65.1		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	3.1		60.2	63.0		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.1		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	61.9		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	65.3		ng/L		108	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	63.0		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	60.9		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	58.2		ng/L		97	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	58.7		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.0		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.6		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	3.1		60.2	63.4		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	64.6		ng/L		107	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	62.1		ng/L		102	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	91		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	99		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	97		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	101		50 - 200
13C5 PFPeA	103		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	103		50 - 200

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167113-2 MSD

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Ka'amilo Wells P2

Prep Type: Total/NA

Prep Batch: 169856

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.5	57.4		ng/L		95	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	60.6		ng/L		100	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	59.0		ng/L		98	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.5	63.4		ng/L		105	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	2.4		60.5	64.5		ng/L		103	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.5	61.9		ng/L		102	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	60.8		ng/L		101	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	63.3		ng/L		102	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.9		60.5	66.2		ng/L		105	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	3.0		60.5	61.1		ng/L		96	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		60.5	58.9		ng/L		97	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	3.6		60.5	65.5		ng/L		102	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	3.1		60.5	63.2		ng/L		99	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	62.2		ng/L		103	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		60.5	61.5		ng/L		100	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	59.7		ng/L		99	70 - 130	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	66.2		ng/L		110	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	61.0		ng/L		101	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	56.6		ng/L		94	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.5	63.3		ng/L		105	70 - 130	8	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	62.6		ng/L		103	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	61.5		ng/L		102	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	3.1		60.5	64.4		ng/L		101	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	62.9		ng/L		104	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	63.5		ng/L		104	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	108		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	108		50 - 200

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167113-2 MSD

Matrix: Water

Analysis Batch: 170027

Client Sample ID: Ka'amilo Wells P2

Prep Type: Total/NA

Prep Batch: 169856

Isotope Dilution	MSD		Limits
	%Recovery	Qualifier	
13C7 PFUnA	104		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	107		50 - 200

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

Lab Sample ID: MBL 380-169702/20-A

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 169702

Analyte	MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		08/21/25 03:35	08/21/25 23:08	1
Surrogate	MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	110		70 - 130			08/21/25 03:35	08/21/25 23:08	1
13C2 PFHxA	107		70 - 130			08/21/25 03:35	08/21/25 23:08	1
13C2 PFDA	114		70 - 130			08/21/25 03:35	08/21/25 23:08	1
13C3-GenX	103		70 - 130			08/21/25 03:35	08/21/25 23:08	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: LCS 380-169702/22-A

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	49.9		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.1	53.9		ng/L		108	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	54.7		ng/L		109	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	51.1		ng/L		102	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	45.3		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	50.4		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	53.8		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	53.1		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	54.2		ng/L		108	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	53.8		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	50.1		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	51.0		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	50.1	53.6		ng/L		107	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	49.4		ng/L		99	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	55.4		ng/L		111	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	52.4		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	51.1		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	53.0		ng/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	111		70 - 130
13C2 PFDA	119		70 - 130
13C3-GenX	110		70 - 130

Lab Sample ID: MRL 380-169702/21-A

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169702

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.44	J	ng/L		122	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.42	J	ng/L		121	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.27	J	ng/L		113	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: MRL 380-169702/21-A

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 169702

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.49	J	ng/L		124	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.49	J	ng/L		124	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.51	J	ng/L		125	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.45	J	ng/L		122	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.27	J	ng/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.52	J	ng/L		126	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.44	J	ng/L		122	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.35	J	ng/L		117	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.53	J	ng/L		126	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.30	J	ng/L		115	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.32	J	ng/L		116	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.27	J	ng/L		113	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	MRL Limits
d5-NEtFOSAA	111		70 - 130
13C2 PFHxA	106		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	104		70 - 130

Lab Sample ID: 380-167113-1 MS

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Ka'amilo Wells P1

Prep Type: Total/NA

Prep Batch: 169702

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		50.3	49.1		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	4.4		50.3	55.7		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	53.8		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	51.9		ng/L		103	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	52.4		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	3.3		50.3	54.0		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	52.7		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	3.7		50.3	56.0		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.3	53.4		ng/L		106	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167113-1 MS

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Ka'amilo Wells P1

Prep Type: Total/NA

Prep Batch: 169702

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits		
Perfluorohexanesulfonic acid (PFHxS)	3.3		50.3	56.0		ng/L		105	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	2.8		50.3	53.2		ng/L		100	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	52.4		ng/L		101	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		50.3	52.4		ng/L		104	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	44.8		ng/L		89	70 - 130		
Perfluorotridecanoic acid (PFTTrDA)	<2.0		50.3	53.8		ng/L		107	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	51.3		ng/L		102	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	48.7		ng/L		97	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	52.4		ng/L		104	70 - 130		

Lab Sample ID: 380-167113-1 MSD

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Ka'amilo Wells P1

Prep Type: Total/NA

Prep Batch: 169702

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.3	53.5		ng/L		106	70 - 130	9	30
Perfluorooctanesulfonic acid (PFOS)	4.4		50.3	56.1		ng/L		103	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	53.4		ng/L		106	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	50.7		ng/L		101	70 - 130	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.3	50.1		ng/L		100	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	3.3		50.3	54.2		ng/L		101	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.3	53.3		ng/L		106	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	3.7		50.3	56.0		ng/L		104	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		50.3	54.5		ng/L		108	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	3.3		50.3	56.3		ng/L		105	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	2.8		50.3	54.7		ng/L		103	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.3	53.5		ng/L		103	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		50.3	55.1		ng/L		110	70 - 130	5	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.3	46.8		ng/L		93	70 - 130	4	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

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

Lab Sample ID: 380-167113-1 MSD

Matrix: Water

Analysis Batch: 169795

Client Sample ID: Ka'amilo Wells P1

Prep Type: Total/NA

Prep Batch: 169702

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.3	55.7		ng/L		111	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.3	51.3		ng/L		102	70 - 130	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.3	50.1		ng/L		100	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.3	52.8		ng/L		105	70 - 130	1	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	114		70 - 130								
13C2 PFHxA	116		70 - 130								
13C2 PFDA	120		70 - 130								
13C3-GenX	118		70 - 130								

QC Association Summary

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS

Prep Batch: 169702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-1	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-167113-2	Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
380-167113-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-167113-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1 DW	
MBL 380-169702/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-169702/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-169702/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-167113-1 MS	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	
380-167113-1 MSD	Ka'amilo Wells P1	Total/NA	Water	537.1 DW	

Analysis Batch: 169795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-1	Ka'amilo Wells P1	Total/NA	Water	537.1	169702
380-167113-2	Ka'amilo Wells P2	Total/NA	Water	537.1	169702
380-167113-3	FB: Ka'amilo Wells P1	Total/NA	Water	537.1	169702
380-167113-4	FB: Ka'amilo Wells P2	Total/NA	Water	537.1	169702
MBL 380-169702/20-A	Method Blank	Total/NA	Water	537.1	169702
LCS 380-169702/22-A	Lab Control Sample	Total/NA	Water	537.1	169702
MRL 380-169702/21-A	Lab Control Sample	Total/NA	Water	537.1	169702
380-167113-1 MS	Ka'amilo Wells P1	Total/NA	Water	537.1	169702
380-167113-1 MSD	Ka'amilo Wells P1	Total/NA	Water	537.1	169702

Prep Batch: 169842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-1	Ka'amilo Wells P1	Total/NA	Water	533	
MBL 380-169842/20-A	Method Blank	Total/NA	Water	533	
LCS 380-169842/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-169842/21-A	Lab Control Sample	Total/NA	Water	533	
380-167103-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-167103-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 169855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	
MBL 380-169855/20-A	Method Blank	Total/NA	Water	533	
LCS 380-169855/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-169855/21-A	Lab Control Sample	Total/NA	Water	533	
380-167116-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-167116-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 169856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-2	Ka'amilo Wells P2	Total/NA	Water	533	
380-167113-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	
MBL 380-169856/20-A	Method Blank	Total/NA	Water	533	
LCS 380-169856/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-169856/21-A	Lab Control Sample	Total/NA	Water	533	
380-167113-2 MS	Ka'amilo Wells P2	Total/NA	Water	533	
380-167113-2 MSD	Ka'amilo Wells P2	Total/NA	Water	533	

QC Association Summary

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

LCMS

Analysis Batch: 170009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-4	FB: Ka'amilo Wells P2	Total/NA	Water	533	169855
MBL 380-169855/20-A	Method Blank	Total/NA	Water	533	169855
LCS 380-169855/22-A	Lab Control Sample	Total/NA	Water	533	169855
MRL 380-169855/21-A	Lab Control Sample	Total/NA	Water	533	169855
380-167116-B-1-A MS	Matrix Spike	Total/NA	Water	533	169855
380-167116-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	169855

Analysis Batch: 170026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-1	Ka'amilo Wells P1	Total/NA	Water	533	169842
MBL 380-169842/20-A	Method Blank	Total/NA	Water	533	169842
LCS 380-169842/22-A	Lab Control Sample	Total/NA	Water	533	169842
MRL 380-169842/21-A	Lab Control Sample	Total/NA	Water	533	169842
380-167103-E-1-A MS	Matrix Spike	Total/NA	Water	533	169842
380-167103-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	169842

Analysis Batch: 170027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-167113-2	Ka'amilo Wells P2	Total/NA	Water	533	169856
380-167113-3	FB: Ka'amilo Wells P1	Total/NA	Water	533	169856
MBL 380-169856/20-A	Method Blank	Total/NA	Water	533	169856
LCS 380-169856/22-A	Lab Control Sample	Total/NA	Water	533	169856
MRL 380-169856/21-A	Lab Control Sample	Total/NA	Water	533	169856
380-167113-2 MS	Ka'amilo Wells P2	Total/NA	Water	533	169856
380-167113-2 MSD	Ka'amilo Wells P2	Total/NA	Water	533	169856

Lab Chronicle

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

Job ID: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Client Sample ID: Ka'amilo Wells P1

Lab Sample ID: 380-167113-1

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169842	E2HD	EA POM	08/21/25 19:27
Total/NA	Analysis	533		1	170026	Y5FM	EA POM	08/22/25 20:05
Total/NA	Prep	537.1 DW			169702	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169795	SZ9R	EA POM	08/21/25 23:37

Client Sample ID: Ka'amilo Wells P2

Lab Sample ID: 380-167113-2

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169856	N8NE	EA POM	08/21/25 16:53
Total/NA	Analysis	533		1	170027	Y5FM	EA POM	08/22/25 11:53
Total/NA	Prep	537.1 DW			169702	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169795	SZ9R	EA POM	08/22/25 01:41

Client Sample ID: FB: Ka'amilo Wells P1

Lab Sample ID: 380-167113-3

Date Collected: 08/18/25 11:49

Matrix: Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169856	N8NE	EA POM	08/21/25 16:53
Total/NA	Analysis	533		1	170027	Y5FM	EA POM	08/22/25 12:21
Total/NA	Prep	537.1 DW			169702	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169795	SZ9R	EA POM	08/22/25 01:51

Client Sample ID: FB: Ka'amilo Wells P2

Lab Sample ID: 380-167113-4

Date Collected: 08/18/25 12:33

Matrix: Water

Date Received: 08/20/25 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			169855	N8NE	EA POM	08/21/25 16:53
Total/NA	Analysis	533		1	170009	Y5FM	EA POM	08/22/25 12:12
Total/NA	Prep	537.1 DW			169702	G9MN	EA POM	08/21/25 03:35
Total/NA	Analysis	537.1		1	169795	SZ9R	EA POM	08/22/25 02:01

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: 380-167113-1
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: 380-167113-1
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: 380-167113-1
SDG: PFAS: Ka'amilo Wells P1/P2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-167113-1	Ka'amilo Wells P1	Water	08/18/25 11:49	08/20/25 10:00	Hawaii
380-167113-2	Ka'amilo Wells P2	Water	08/18/25 12:33	08/20/25 10:00	Hawaii
380-167113-3	FB: Ka'amilo Wells P1	Water	08/18/25 11:49	08/20/25 10:00	Hawaii
380-167113-4	FB: Ka'amilo Wells P2	Water	08/18/25 12:33	08/20/25 10:00	Hawaii

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

Chain of Custody Record

eurofins
Environment Testing
America

Client Information		Lab Pk: Arada, Rachelle		COC No: 380-27941-2757.2	
Client Contact: Kirk Iwamoto		Phone: +1 808 748 5840		Page: Page 2 of 2	
Company: City & County of Honolulu		Email: Rachelle.Arada@et.eurofins.com		Job #:	
Address: 630 South Beretania Street, Chemistry Lab Honolulu		Due Date Requested: TAT Requested (days): RUSH		Analysis Requested	
State, Zip: HI 96843		Compliance Project: Δ No		Preservation Codes: A HCL B NaOH C Zn Acetate D Nitric Acid E NaHSO ₄ F MeOH G Amchlor H Ascorbic Acid I Ice J DI Water K EDTA L EDA Other	
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 06312023		Total Number of Containers	
Email: kiwamoto@hbws.org		WO #:		Special Instructions/Note:	
Project Name: RED-HILL HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111			
Site:		SSOW#:			
Sample Identification		Sample Date		Sample Time	
Ka'amilo Wells P1	18-Aug-2025	1149	G	Water	
Ka'amilo Wells P2	18-Aug-2025	1233	G	Water	
FB Ka'amilo Wells P1	18-Aug-2025	1149		Water	
FB Ka'amilo Wells P2	18-Aug-2025	1233		Water	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Deliverable Requested: I II III IV Other (specify)		☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months	
Empty Kit Relinquished by:		Date:		Special Instructions/QC Requirements:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-167113-1

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

Login Number: 167113

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	