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ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/27/2026 11:08:29 AM

JOB DESCRIPTION

RED-HILL
PFAS: Ka'amilo Wells P1

JOB NUMBER

380-215258-1

Eurofins Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Drinking Water and Wastewater West, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

Authorization



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

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Definitions/Glossary

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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: 380-215258-1

Job ID: 380-215258-1

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Job Narrative 380-215258-1

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 5/20/2026 9:27 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.2°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: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	3.1		2.0	ng/L	1		533	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.8		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	4.7		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.4		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.5		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-2

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: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-1

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

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		05/21/26 18:50	05/23/26 14:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorobutanesulfonic acid (PFBS)	3.1		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoroheptanoic acid (PFHpA)	2.1		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorohexanoic acid (PFHxA)	3.8		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorooctanoic acid (PFOA)	4.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoropentanoic acid (PFPeA)	4.5		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:39	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C6 PFDA	103		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C5 PFHxA	114		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C4 PFHpA	111		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C8 PFOA	110		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C9 PFNA	115		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C7 PFUnA	112		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C2 PFDoA	104		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C4 PFBA	116		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C5 PFPeA	110		50 - 200			05/21/26 18:50	05/23/26 14:39	1
13C3 PFBS	109		50 - 200			05/21/26 18:50	05/23/26 14:39	1

Client Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-1

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	113		50 - 200	05/21/26 18:50	05/23/26 14:39	1
13C8 PFOS	113		50 - 200	05/21/26 18:50	05/23/26 14:39	1
13C2-4:2-FTS	114		50 - 200	05/21/26 18:50	05/23/26 14:39	1
13C2-6:2-FTS	108		50 - 200	05/21/26 18:50	05/23/26 14:39	1
13C2-8:2-FTS	102		50 - 200	05/21/26 18:50	05/23/26 14:39	1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorooctanesulfonic acid (PFOS)	5.6		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorohexanoic acid (PFHxA)	4.7		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorooctanoic acid (PFOA)	4.6		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorohexanesulfonic acid (PFHxS)	4.4		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorobutanesulfonic acid (PFBS)	3.6		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluoroheptanoic acid (PFHpA)	2.5		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	107		70 - 130	05/21/26 10:42	05/22/26 20:29	1
13C2 PFHxA	111		70 - 130	05/21/26 10:42	05/22/26 20:29	1
13C2 PFDA	113		70 - 130	05/21/26 10:42	05/22/26 20:29	1
13C3-GenX	110		70 - 130	05/21/26 10:42	05/22/26 20:29	1

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-2

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1

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Client Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-2

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

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		05/21/26 18:50	05/23/26 14:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/21/26 18:50	05/23/26 14:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C6 PFDA	100		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C5 PFHxA	111		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C4 PFHpA	107		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C8 PFOA	106		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C9 PFNA	109		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C7 PFUnA	109		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C2 PFDoA	107		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C4 PFBA	110		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C5 PFPeA	105		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C3 PFBS	105		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C3 PFHxS	108		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C8 PFOS	112		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C2-4:2-FTS	113		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C2-6:2-FTS	109		50 - 200	05/21/26 18:50	05/23/26 14:48	1
13C2-8:2-FTS	107		50 - 200	05/21/26 18:50	05/23/26 14:48	1

Client Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-2

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/21/26 10:42	05/22/26 20:38	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130			05/21/26 10:42	05/22/26 20:38	1
13C2 PFHxA	113		70 - 130			05/21/26 10:42	05/22/26 20:38	1
13C2 PFDA	120		70 - 130			05/21/26 10:42	05/22/26 20:38	1
13C3-GenX	100		70 - 130			05/21/26 10:42	05/22/26 20:38	1

Action Limit Summary

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.6		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.4		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Surrogate Summary

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

Job ID: 380-215258-1
 SDG: PFAS: Ka'amilo Wells P1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

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)
380-214936-D-2-A MSD	Matrix Spike Duplicate	105	113	110	106
380-214936-E-2-A MS	Matrix Spike	105	114	113	114
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	107	111	113	110
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	106	113	120	100
LCS 380-228643/21-A	Lab Control Sample	103	111	118	113
MBL 380-228643/19-A	Method Blank	105	104	109	96
MRL 380-228643/20-A	Lab Control Sample	110	109	107	100

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
 PFHxA = 13C2 PFHxA
 PFDA = 13C2 PFDA
 GenX = 13C3-GenX



Isotope Dilution Summary

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

Job ID: 380-215258-1
 SDG: PFAS: Ka'amilo Wells P1

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)	PFD _o A (50-200)
380-215228-E-1-B MSD	Matrix Spike Duplicate	109	102	107	105	104	111	112	107
380-215228-F-1-B MS	Matrix Spike	118	105	107	108	113	114	114	111
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	100	103	114	111	110	115	112	104
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	97	100	111	107	106	109	109	107
LCS 380-228770/22-A	Lab Control Sample	112	106	110	105	108	111	114	113
MBL 380-228770/20-A	Method Blank	86	87	94	91	92	97	98	96
MRL 380-228770/21-A	Lab Control Sample	88	96	99	97	99	103	103	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-215228-E-1-B MSD	Matrix Spike Duplicate	112	104	108	106	111	104	107	107
380-215228-F-1-B MS	Matrix Spike	109	106	107	109	113	107	107	109
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	116	110	109	113	113	114	108	102
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	110	105	105	108	112	113	109	107
LCS 380-228770/22-A	Lab Control Sample	81	104	112	109	112	105	110	107
MBL 380-228770/20-A	Method Blank	87	91	105	108	115	116	105	103
MRL 380-228770/21-A	Lab Control Sample	87	98	107	110	115	114	107	107

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFD_oA = 13C2 PFD_oA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

QC Sample Results

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

Job ID: 380-215258-1
 SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MBL 380-228770/20-A
Matrix: Water
Analysis Batch: 229158

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228770

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		05/21/26 18:50	05/23/26 11:08	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		05/21/26 18:50	05/23/26 11:08	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C6 PFDA	87		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C5 PFHxA	94		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C4 PFHpA	91		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C8 PFOA	92		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C9 PFNA	97		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C7 PFUnA	98		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C2 PFDoA	96		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C4 PFBA	87		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C5 PFPeA	91		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C3 PFBS	105		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C3 PFHxS	108		50 - 200	05/21/26 18:50	05/23/26 11:08	1

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QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MBL 380-228770/20-A
Matrix: Water
Analysis Batch: 229158

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228770

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	115		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C2-4:2-FTS	116		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C2-6:2-FTS	105		50 - 200	05/21/26 18:50	05/23/26 11:08	1
13C2-8:2-FTS	103		50 - 200	05/21/26 18:50	05/23/26 11:08	1

Lab Sample ID: LCS 380-228770/22-A
Matrix: Water
Analysis Batch: 229158

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	102		ng/L		85	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	112		ng/L		93	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	106		ng/L		88	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	108		ng/L		90	70 - 130
Perfluorodecanoic acid (PFDA)	120	112		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	120	106		ng/L		88	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	113		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	111		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	120	111		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	120	108		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	109		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	120	110		ng/L		91	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	110		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	120	108		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	108		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	104		ng/L		87	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	108		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	113		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	111		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	109		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	120	110		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	111		ng/L		92	70 - 130

QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: LCS 380-228770/22-A

Matrix: Water

Analysis Batch: 229158

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	111		ng/L		92	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	112		50 - 200				
13C6 PFDA	106		50 - 200				
13C5 PFHxA	110		50 - 200				
13C4 PFHpA	105		50 - 200				
13C8 PFOA	108		50 - 200				
13C9 PFNA	111		50 - 200				
13C7 PFUnA	114		50 - 200				
13C2 PFDoA	113		50 - 200				
13C4 PFBA	81		50 - 200				
13C5 PFPeA	104		50 - 200				
13C3 PFBS	112		50 - 200				
13C3 PFHxS	109		50 - 200				
13C8 PFOS	112		50 - 200				
13C2-4:2-FTS	105		50 - 200				
13C2-6:2-FTS	110		50 - 200				
13C2-8:2-FTS	107		50 - 200				

Lab Sample ID: MRL 380-228770/21-A

Matrix: Water

Analysis Batch: 229158

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 228770

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.55	J	ng/L		78	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.71	J	ng/L		85	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.84	J	ng/L		92	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.87	J	ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.78	J	ng/L		89	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.87	J	ng/L		93	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.85	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.86	J	ng/L		93	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.04	J	ng/L		102	50 - 150

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QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MRL 380-228770/21-A
Matrix: Water
Analysis Batch: 229158

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228770

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	1.93	J	ng/L		96	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.14	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	1.72	J	ng/L		86	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	2.07	J	ng/L		103	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.80	J	ng/L		90	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.71	J	ng/L		85	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.03	J	ng/L		101	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.77	J	ng/L		88	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.88	J	ng/L		94	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	97		50 - 200
13C8 PFOA	99		50 - 200
13C9 PFNA	103		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	87		50 - 200
13C5 PFPeA	98		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	115		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: 380-215228-E-1-B MSD
Matrix: Water
Analysis Batch: 229158

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 228770

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		120	103		ng/L		85	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	104		ng/L		87	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	115		ng/L		95	70 - 130	1	30

QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-215228-E-1-B MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 229158

Prep Batch: 228770

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Hexafluoropropylene Oxide	<2.0		120	115		ng/L		95	70 - 130	5	30
Dimer Acid (HFPO-DA/GenX)											
Perfluorobutanesulfonic acid (PFBS)	3.0		120	118		ng/L		96	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		120	120		ng/L		100	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	109		ng/L		91	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	2.0		120	115		ng/L		94	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	3.7		120	117		ng/L		94	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	4.3		120	115		ng/L		92	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		120	109		ng/L		91	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	4.7		120	112		ng/L		89	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	3.9		120	119		ng/L		95	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	114		ng/L		95	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		120	110		ng/L		90	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	110		ng/L		92	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	117		ng/L		97	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	110		ng/L		91	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	117		ng/L		98	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	126		ng/L		104	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	125		ng/L		104	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	126		ng/L		105	70 - 130	8	30
Perfluoropentanoic acid (PFPeA)	4.5		120	124		ng/L		99	70 - 130	6	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	108		ng/L		89	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	114		ng/L		94	70 - 130	3	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	107		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	104		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	104		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	111		50 - 200

QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-215228-E-1-B MSD

Matrix: Water

Analysis Batch: 229158

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 228770

<i>Isotope Dilution</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: 380-215228-F-1-B MS

Matrix: Water

Analysis Batch: 229158

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 228770

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>Spike</i>	<i>MS</i>	<i>MS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>					
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	99.5		ng/L		83		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	104		ng/L		86		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	113		ng/L		94		70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	109		ng/L		91		70 - 130
Perfluorobutanesulfonic acid (PFBS)	3.0		120	118		ng/L		96		70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	118		ng/L		98		70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	107		ng/L		89		70 - 130
Perfluoroheptanoic acid (PFHpA)	2.0		120	112		ng/L		91		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.7		120	114		ng/L		91		70 - 130
Perfluorohexanoic acid (PFHxA)	4.3		120	117		ng/L		93		70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	105		ng/L		88		70 - 130
Perfluorooctanesulfonic acid (PFOS)	4.7		120	108		ng/L		86		70 - 130
Perfluorooctanoic acid (PFOA)	3.9		120	112		ng/L		90		70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	109		ng/L		91		70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	113		ng/L		92		70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	106		ng/L		88		70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	117		ng/L		97		70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	106		ng/L		88		70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	115		ng/L		96		70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	123		ng/L		102		70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	122		ng/L		102		70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	116		ng/L		97		70 - 130
Perfluoropentanoic acid (PFPeA)	4.5		120	117		ng/L		94		70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	105		ng/L		88		70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	110		ng/L		91		70 - 130

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QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

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

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	118		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	107		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	107		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	109		50 - 200

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Lab Sample ID: MBL 380-228643/19-A
Matrix: Water
Analysis Batch: 229059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228643

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/21/26 10:42	05/22/26 16:56	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	105		70 - 130			05/21/26 10:42	05/22/26 16:56	1
13C2 PFHxA	104		70 - 130			05/21/26 10:42	05/22/26 16:56	1
13C2 PFDA	109		70 - 130			05/21/26 10:42	05/22/26 16:56	1

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QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: MBL 380-228643/19-A
Matrix: Water
Analysis Batch: 229059

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228643

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	96	Qualifier	70 - 130	05/21/26 10:42	05/22/26 16:56	1

Lab Sample ID: LCS 380-228643/21-A
Matrix: Water
Analysis Batch: 229059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228643

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>			<i>Limits</i>	<i>Limits</i>
Hexafluoropropylene Oxide	50.1	46.7		ng/L		93	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.1	49.2		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	51.6		ng/L		103	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	49.5		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	46.8		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	51.3		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	50.9		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	50.4		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	51.4		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	49.6		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	48.6		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	54.8		ng/L		109	70 - 130
Perfluorononanoic acid (PFNA)	50.1	51.6		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	44.3		ng/L		88	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	52.7		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	48.3		ng/L		96	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	49.1		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	49.3		ng/L		98	70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	103		70 - 130
13C2 PFHxA	111		70 - 130
13C2 PFDA	118		70 - 130
13C3-GenX	113		70 - 130

QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: MRL 380-228643/20-A
Matrix: Water
Analysis Batch: 229059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228643

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	2.00	1.85	J	ng/L		93	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	2.00	2.10	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.08	J	ng/L		104	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.14	J	ng/L		107	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.81	J	ng/L		90	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.20	J	ng/L		110	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.91	J	ng/L		95	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.79	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.02	J	ng/L		101	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	110		70 - 130
13C2 PFHxA	109		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	100		70 - 130

Lab Sample ID: 380-214936-D-2-A MSD
Matrix: Water
Analysis Batch: 229059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 228643

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide	<2.0		50.1	46.8		ng/L		93	70 - 130	3	30
Dimer Acid (HFPO-DA/GenX)											
Perfluorooctanesulfonic acid (PFOS)	5.4		50.1	55.6		ng/L		100	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.1	50.6		ng/L		101	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.1	49.3		ng/L		98	70 - 130	6	30

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QC Sample Results

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: 380-214936-D-2-A MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 229059

Prep Batch: 228643

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		50.1	51.3		ng/L		102	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.1	51.0		ng/L		101	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.1	51.0		ng/L		102	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		50.1	51.7		ng/L		102	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		50.1	52.3		ng/L		104	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	2.1		50.1	54.0		ng/L		104	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.1	49.5		ng/L		97	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.1	51.0		ng/L		102	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		50.1	51.0		ng/L		102	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.1	39.5		ng/L		79	70 - 130	15	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.1	51.8		ng/L		103	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.1	50.0		ng/L		100	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.1	49.2		ng/L		98	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.1	48.9		ng/L		98	70 - 130	2	30
Surrogate		MSD	MSD								
	%Recovery	Qualifier	Limits								
d5-NEtFOSAA	105		70 - 130								
13C2 PFHxA	113		70 - 130								
13C2 PFDA	110		70 - 130								
13C3-GenX	106		70 - 130								

Lab Sample ID: 380-214936-E-2-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 229059

Prep Batch: 228643

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	48.3		ng/L		96	70 - 130		
Perfluorooctanesulfonic acid (PFOS)	5.4		50.2	54.2		ng/L		97	70 - 130		
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	49.8		ng/L		99	70 - 130		
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		50.2	52.1		ng/L		104	70 - 130		
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		50.2	50.9		ng/L		101	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	51.9		ng/L		102	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	52.7		ng/L		105	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		50.2	52.3		ng/L		103	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		50.2	53.4		ng/L		106	70 - 130		

Eurofins Pomona

QC Association Summary

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

LCMS

Prep Batch: 228643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
MBL 380-228643/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-228643/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-228643/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-214936-D-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	
380-214936-E-2-A MS	Matrix Spike	Total/NA	Water	537.1 DW	

Prep Batch: 228770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
MBL 380-228770/20-A	Method Blank	Total/NA	Water	533	
LCS 380-228770/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-228770/21-A	Lab Control Sample	Total/NA	Water	533	
380-215228-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	
380-215228-F-1-B MS	Matrix Spike	Total/NA	Water	533	

Analysis Batch: 229059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	228643
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	228643
MBL 380-228643/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	228643
LCS 380-228643/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	228643
MRL 380-228643/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	228643
380-214936-D-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	228643
380-214936-E-2-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	228643

Analysis Batch: 229158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	228770
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	228770
MBL 380-228770/20-A	Method Blank	Total/NA	Water	533	228770
LCS 380-228770/22-A	Lab Control Sample	Total/NA	Water	533	228770
MRL 380-228770/21-A	Lab Control Sample	Total/NA	Water	533	228770
380-215228-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	228770
380-215228-F-1-B MS	Matrix Spike	Total/NA	Water	533	228770

Lab Chronicle

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

Job ID: 380-215258-1
 SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-1

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			228770	E2HD	EA POM	05/21/26 18:50
Total/NA	Analysis	533		1	229158	Y5FM	EA POM	05/23/26 14:39
Total/NA	Prep	537.1 DW			228643	L9UA	EA POM	05/21/26 10:42
Total/NA	Analysis	EPA 537.1 V2		1	229059	SZ9R	EA POM	05/22/26 20:29

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)

Lab Sample ID: 380-215258-2

Date Collected: 05/18/26 12:09

Matrix: Water

Date Received: 05/20/26 09:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			228770	E2HD	EA POM	05/21/26 18:50
Total/NA	Analysis	533		1	229158	Y5FM	EA POM	05/23/26 14:48
Total/NA	Prep	537.1 DW			228643	L9UA	EA POM	05/21/26 10:42
Total/NA	Analysis	EPA 537.1 V2		1	229059	SZ9R	EA POM	05/22/26 20:38

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Laboratory: Eurofins Pomona

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

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

- 1
- 2
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- 17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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



Sample Summary

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

Job ID: 380-215258-1
SDG: PFAS: Ka'amilo Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-215258-1	Ka'amilo Wells P1 (331-031-WL008)	Water	05/18/26 12:09	05/20/26 09:27	Hawaii
380-215258-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Water	05/18/26 12:09	05/20/26 09:27	Hawaii

- 1
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- 17

Monrovia, CA (Suite 100)

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

Chain of Custody Record



Environmental
America



80 215258 COC

Client Information		Sampler: bailey		Lab PM: Lopez, Maria		Carrier Tracking No(s)		COC No:	
Client Contact: kirk lwamoto		Phone: +1 808 748 5840		E-Mail: Maria.Lopez@et.euronisus.com		State of Origin:		Page:	
Company: City & County of Honolulu				PWSID:		Analysis Requested			
Address: 630 South Beretania Street; Chemistry Lab		Due Date Requested:		Field Filled Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> SUBCONTRACT - 625 PAH Physia LL (EAL) + TICs 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18 525.2_PREC - (MOD) 525plus PLUS TICs 537.1_DW_PREC - 537.1 Full List 533 - All Analytes		Job #:		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)	
City: Honolulu		TAT Requested (days): RUSH				Total Number of containers:		Special Instructions/Note:	
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> No							
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023							
Email: kiwamoto@hbws.org		WO #:							
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111							
Site:		SSOW#:							
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wast/oil, DT=tissue, A=Al)	
Ka'amilo Wells P1 (331-031-WL008)		18-May-2026		1209		G		Water	
FB: Ka'amilo Wells P1 (331-031-WL008)		18-May-2026		1209				Water	
Possible Hazard Identification		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Deliverable Requested I, II, III, IV, Other (specify)				<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Empty Kit Relinquished by		Date:		Time:		Method of Shipment: Fed X: 972003245647			
Relinquished by		Date/Time: 19 May 2026 1400		Company: HBWS		Received by: [Signature]		Date/Time: 5/20/26 927	
Relinquished by		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: (631A) 2 2 + 0.0 = 2.2 gpl - 100700					



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-215258-1
SDG Number: PFAS: Ka'amilo Wells P1

Login Number: 215258

List Number: 1

Creator: Avila, Ivan

List Source: Eurofins Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

