

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
PFAS: Ka'amilo Wells P1
RUSH Weekly Red Hill

JOB NUMBER

380-227793-1

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)386-1145

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Definitions/Glossary

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

Job ID: 380-227793-1
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: 380-227793-1

Job ID: 380-227793-1

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Job Narrative 380-227793-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 7/29/2026 10:40 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

EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results: Ka'amilo Wells P1 (331-031-WL008) (380-227793-1). (XWB4)

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: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	3.4		2.0	ng/L	1		533	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.3		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	4.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.5		2.0	ng/L	1		533	Total/NA
Perfluorobutanoic acid (PFBA)	2.0		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.6		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.8		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)	4.7		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.8		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: 380-227793-2

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: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

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		07/30/26 07:53	07/30/26 17:49	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorobutanesulfonic acid (PFBS)	3.4		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoroheptanoic acid (PFHpA)	2.3		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorohexanoic acid (PFHxA)	4.5		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorooctanoic acid (PFOA)	4.5		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluorobutanoic acid (PFBA)	2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoropentanoic acid (PFPeA)	4.6		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 17:49	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C6 PFDA	100		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C5 PFHxA	99		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C4 PFHpA	107		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C8 PFOA	108		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C9 PFNA	113		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C7 PFUnA	116		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C2 PFDoA	113		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C4 PFBA	106		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C5 PFPeA	98		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C3 PFBS	102		50 - 200	07/30/26 07:53	07/30/26 17:49	1

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Client Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	104		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C8 PFOS	108		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C2-4:2-FTS	107		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C2-6:2-FTS	111		50 - 200	07/30/26 07:53	07/30/26 17:49	1
13C2-8:2-FTS	114		50 - 200	07/30/26 07:53	07/30/26 17:49	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		07/30/26 02:40	07/30/26 14:05	1
Perfluorooctanesulfonic acid (PFOS)	5.8		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorohexanoic acid (PFHxA)	4.7		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorooctanoic acid (PFOA)	4.7		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorohexanesulfonic acid (PFHxS)	4.6		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorobutanesulfonic acid (PFBS)	3.8		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluoroheptanoic acid (PFHpA)	2.5		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 14:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	107		70 - 130	07/30/26 02:40	07/30/26 14:05	1
13C2 PFHxA	112		70 - 130	07/30/26 02:40	07/30/26 14:05	1
13C2 PFDA	108		70 - 130	07/30/26 02:40	07/30/26 14:05	1
13C3-GenX	105		70 - 130	07/30/26 02:40	07/30/26 14:05	1

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

Lab Sample ID: 380-227793-2

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1

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Client Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-2

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

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		07/30/26 07:53	07/30/26 21:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/30/26 07:53	07/30/26 21:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C6 PFDA	106		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C5 PFHxA	98		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C4 PFHpA	102		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C8 PFOA	102		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C9 PFNA	109		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C7 PFUnA	114		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C2 PFDoA	121		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C4 PFBA	103		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C5 PFPeA	98		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C3 PFBS	96		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C3 PFHxS	107		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C8 PFOS	115		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C2-4:2-FTS	109		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C2-6:2-FTS	104		50 - 200	07/30/26 07:53	07/30/26 21:10	1
13C2-8:2-FTS	112		50 - 200	07/30/26 07:53	07/30/26 21:10	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-2

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

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		07/30/26 02:40	07/30/26 18:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/30/26 02:40	07/30/26 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130	07/30/26 02:40	07/30/26 18:25	1
13C2 PFHxA	117		70 - 130	07/30/26 02:40	07/30/26 18:25	1
13C2 PFDA	119		70 - 130	07/30/26 02:40	07/30/26 18:25	1
13C3-GenX	105		70 - 130	07/30/26 02:40	07/30/26 18:25	1

Action Limit Summary

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1

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)	3.9		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	4.5		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)	5.8		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	4.7		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.6		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: 380-227793-2

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)	<2.0		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: 380-227793-1
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)
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	107	112	108	105
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	104	115	113	110
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	99	108	111	105
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	103	117	119	105
LCS 380-243397/21-A	Lab Control Sample	99	112	111	98
MBL 380-243397/19-A	Method Blank	108	116	118	95
MRL 380-243397/20-A	Lab Control Sample	98	103	107	90

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: 380-227793-1
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)	PFDaA (50-200)
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	104	100	99	107	108	113	116	113
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	109	100	100	107	109	110	119	119
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	100	107	100	109	109	112	120	119
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	97	106	98	102	102	109	114	121
LCS 380-243406/22-A	Lab Control Sample	96	104	106	102	107	111	122	113
MBL 380-243406/20-A	Method Blank	95	98	104	105	107	110	111	108
MRL 380-243406/21-A	Lab Control Sample	88	94	98	98	100	100	112	107

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)
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	106	98	102	104	108	107	111	114
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	108	102	106	107	112	112	110	113
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	110	106	107	110	111	105	112	111
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	103	98	96	107	115	109	104	112
LCS 380-243406/22-A	Lab Control Sample	99	97	107	108	113	104	106	107
MBL 380-243406/20-A	Method Blank	95	88	108	111	116	113	105	104
MRL 380-243406/21-A	Lab Control Sample	94	88	104	103	110	112	105	112

Surrogate Legend

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

QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MBL 380-243406/20-A

Matrix: Water

Analysis Batch: 243558

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 243406

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.24		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		07/30/26 07:53	07/30/26 17:20	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C6 PFDA	98		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C5 PFHxA	104		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C4 PFHpA	105		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C8 PFOA	107		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C9 PFNA	110		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C7 PFUnA	111		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C2 PFDoA	108		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C4 PFBA	95		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C5 PFPeA	88		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C3 PFBS	108		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C3 PFHxS	111		50 - 200	07/30/26 07:53	07/30/26 17:20	1

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MBL 380-243406/20-A

Matrix: Water

Analysis Batch: 243558

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 243406

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	116		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C2-4:2-FTS	113		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C2-6:2-FTS	105		50 - 200	07/30/26 07:53	07/30/26 17:20	1
13C2-8:2-FTS	104		50 - 200	07/30/26 07:53	07/30/26 17:20	1

Lab Sample ID: LCS 380-243406/22-A

Matrix: Water

Analysis Batch: 243558

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 243406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	59.1	52.2		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	59.1	51.0		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.1	58.3		ng/L		99	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.1	56.8		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.1	55.5		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	59.1	60.9		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDaA)	59.1	58.3		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.1	60.3		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.1	55.5		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	59.1	55.6		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	59.1	49.5		ng/L		84	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.1	52.7		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	59.1	54.8		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.1	54.0		ng/L		91	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	58.3		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	56.8		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	57.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	58.3		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	45.7		ng/L		77	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	59.1	52.0		ng/L		88	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	55.0		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	53.6		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	57.6		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	51.8		ng/L		88	70 - 130

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: LCS 380-243406/22-A

Matrix: Water

Analysis Batch: 243558

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 243406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	59.1	55.5		ng/L		94	70 - 130
		LCS	LCS				
		%Recovery	Qualifier	Limits			
13C3 HFPO-DA		96		50 - 200			
13C6 PFDA		104		50 - 200			
13C5 PFHxA		106		50 - 200			
13C4 PFHpA		102		50 - 200			
13C8 PFOA		107		50 - 200			
13C9 PFNA		111		50 - 200			
13C7 PFUnA		122		50 - 200			
13C2 PFDoA		113		50 - 200			
13C4 PFBA		99		50 - 200			
13C5 PFPeA		97		50 - 200			
13C3 PFBS		107		50 - 200			
13C3 PFHxS		108		50 - 200			
13C8 PFOS		113		50 - 200			
13C2-4:2-FTS		104		50 - 200			
13C2-6:2-FTS		106		50 - 200			
13C2-8:2-FTS		107		50 - 200			

Lab Sample ID: MRL 380-243406/21-A

Matrix: Water

Analysis Batch: 243558

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 243406

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.95	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	1.97	1.85	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.97	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.95	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.99	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.25	J	ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.12	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.04	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.37	J	ng/L		120	50 - 150
Perfluorononanoic acid (PFNA)	1.97	1.80	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	1.91	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.07	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.27	J	ng/L		115	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MRL 380-243406/21-A

Matrix: Water

Analysis Batch: 243558

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 243406

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	1.97	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.04	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.22	J	ng/L		113	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	1.59	J	ng/L		81	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.96	J	ng/L		99	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.97	J	ng/L		100	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.83	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.21	J	ng/L		112	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.85	J	ng/L		94	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.91	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	98		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	88		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	110		50 - 200
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-227793-1 MS

Matrix: Water

Analysis Batch: 243558

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

Prep Type: Total/NA

Prep Batch: 243406

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		59.3	52.0		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.3	52.8		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.3	56.8		ng/L		96	70 - 130

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1 MS

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

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 243558

Prep Batch: 243406

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		59.3	57.2		ng/L		97	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	3.4		59.3	62.2		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		59.3	61.9		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		59.3	55.6		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.3		59.3	61.0		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.9		59.3	58.6		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	4.5		59.3	62.9		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		59.3	50.0		ng/L		84	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.0		59.3	57.3		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	4.5		59.3	61.9		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		59.3	60.0		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	2.0		59.3	57.4		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.3	57.5		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.3	60.1		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.3	59.6		ng/L		101	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		59.3	47.3		ng/L		80	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		59.3	56.4		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.3	59.1		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.3	58.5		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	4.6		59.3	61.7		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.3	53.5		ng/L		90	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.3	57.0		ng/L		95	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	119		50 - 200
13C2 PFDoA	119		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	102		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	112		50 - 200

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1 MS

Matrix: Water

Analysis Batch: 243558

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

Prep Type: Total/NA

Prep Batch: 243406

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	113		50 - 200

Lab Sample ID: 380-227793-1 MSD

Matrix: Water

Analysis Batch: 243558

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

Prep Type: Total/NA

Prep Batch: 243406

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		59.2	51.4		ng/L		87	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		59.2	51.1		ng/L		86	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.2	55.9		ng/L		95	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.2	58.7		ng/L		99	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	3.4		59.2	59.8		ng/L		95	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		59.2	59.8		ng/L		101	70 - 130	3	30
Perfluorododecanoic acid (PFDaA)	<2.0		59.2	55.9		ng/L		95	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	2.3		59.2	57.6		ng/L		94	70 - 130	6	30
Perfluorohexanesulfonic acid (PFHxS)	3.9		59.2	57.2		ng/L		90	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	4.5		59.2	61.2		ng/L		96	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		59.2	49.3		ng/L		83	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	5.0		59.2	56.9		ng/L		88	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	4.5		59.2	59.7		ng/L		93	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.2	55.7		ng/L		94	70 - 130	7	30
Perfluorobutanoic acid (PFBA)	2.0		59.2	56.4		ng/L		92	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.2	57.6		ng/L		97	70 - 130	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.2	55.9		ng/L		95	70 - 130	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.2	55.8		ng/L		94	70 - 130	7	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.2	51.6		ng/L		87	70 - 130	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		59.2	59.0		ng/L		100	70 - 130	5	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.2	59.4		ng/L		100	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.2	56.9		ng/L		96	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	4.6		59.2	59.9		ng/L		93	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.2	54.1		ng/L		91	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.2	55.5		ng/L		93	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	120		50 - 200
13C2 PFDoA	119		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	112		50 - 200
13C2-8:2-FTS	111		50 - 200

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

Lab Sample ID: MBL 380-243397/19-A
Matrix: Water
Analysis Batch: 243473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 243397

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.99		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		07/30/26 02:40	07/30/26 13:35	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			07/30/26 02:40	07/30/26 13:35	1
13C2 PFHxA	116		70 - 130			07/30/26 02:40	07/30/26 13:35	1
13C2 PFDA	118		70 - 130			07/30/26 02:40	07/30/26 13:35	1

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MBL 380-243397/19-A

Matrix: Water

Analysis Batch: 243473

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 243397

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	95		70 - 130	07/30/26 02:40	07/30/26 13:35	1

Lab Sample ID: LCS 380-243397/21-A

Matrix: Water

Analysis Batch: 243473

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 243397

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	49.1	46.0		ng/L		94	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	49.1	54.2		ng/L		110	70 - 130
Perfluoroundecanoic acid (PFUnA)	49.1	52.4		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	49.1	48.9		ng/L		100	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	49.1	46.6		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	49.1	51.1		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	49.1	53.8		ng/L		110	70 - 130
Perfluorooctanoic acid (PFOA)	49.1	51.5		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	49.1	51.9		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	49.1	55.5		ng/L		113	70 - 130
Perfluorobutanesulfonic acid (PFBS)	49.1	57.2		ng/L		117	70 - 130
Perfluoroheptanoic acid (PFHpA)	49.1	51.6		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	49.1	51.0		ng/L		104	70 - 130
Perfluorotetradecanoic acid (PFTA)	49.1	50.0		ng/L		102	70 - 130
Perfluorotridecanoic acid (PFTrDA)	49.1	55.8		ng/L		114	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.1	54.0		ng/L		110	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.1	54.7		ng/L		111	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.1	43.9		ng/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	112		70 - 130
13C2 PFDA	111		70 - 130
13C3-GenX	98		70 - 130

QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: MRL 380-243397/20-A

Matrix: Water

Analysis Batch: 243473

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 243397

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.73	J	ng/L		88	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.04	J	ng/L		104	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	1.98	J	ng/L		101	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.97	1.82	J	ng/L		92	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.97	1.80	J	ng/L		91	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.07	J	ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.00	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	1.96	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.09	J	ng/L		106	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	2.20	J	ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.04	J	ng/L		104	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.97	1.86	J	ng/L		94	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.97	2.05	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	2.02	J	ng/L		102	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.91	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.84	J	ng/L		94	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	90		70 - 130

Lab Sample ID: 380-227793-1 MS

Matrix: Water

Analysis Batch: 243473

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

Prep Type: Total/NA

Prep Batch: 243397

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		49.2	52.4		ng/L		106	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.8		49.2	57.3		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		49.2	55.4		ng/L		113	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.2	51.9		ng/L		105	70 - 130

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QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1 MS

Matrix: Water

Analysis Batch: 243473

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

Prep Type: Total/NA

Prep Batch: 243397

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits		
	Result	Qualifier	Added	Result	Qualifier							
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		49.2	49.4		ng/L		100	70 - 130			
Perfluorohexanoic acid (PFHxA)	4.7		49.2	58.0		ng/L		108	70 - 130			
Perfluorododecanoic acid (PFDoA)	<2.0		49.2	54.3		ng/L		110	70 - 130			
Perfluorooctanoic acid (PFOA)	4.7		49.2	59.4		ng/L		111	70 - 130			
Perfluorodecanoic acid (PFDA)	<2.0		49.2	54.1		ng/L		110	70 - 130			
Perfluorohexanesulfonic acid (PFHxS)	4.6		49.2	58.1		ng/L		109	70 - 130			
Perfluorobutanesulfonic acid (PFBS)	3.8		49.2	57.5		ng/L		109	70 - 130			
Perfluoroheptanoic acid (PFHpA)	2.5		49.2	58.6		ng/L		114	70 - 130			
Perfluorononanoic acid (PFNA)	<2.0		49.2	54.8		ng/L		111	70 - 130			
Perfluorotetradecanoic acid (PFTA)	<2.0		49.2	44.2		ng/L		90	70 - 130			
Perfluorotridecanoic acid (PFTrDA)	<2.0		49.2	57.8		ng/L		117	70 - 130			
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.2	53.3		ng/L		108	70 - 130			
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.2	53.7		ng/L		109	70 - 130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.2	54.3		ng/L		110	70 - 130			
		MS	MS									
Surrogate	%Recovery	Qualifier	Limits									
d5-NEtFOSAA	104		70 - 130									
13C2 PFHxA	115		70 - 130									
13C2 PFDA	113		70 - 130									
13C3-GenX	110		70 - 130									

Lab Sample ID: 380-227793-1 MSD

Matrix: Water

Analysis Batch: 243473

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

Prep Type: Total/NA

Prep Batch: 243397

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		49.1	50.9		ng/L		104	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	5.8		49.1	58.3		ng/L		107	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		49.1	54.8		ng/L		112	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.1	51.6		ng/L		105	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		49.1	49.2		ng/L		100	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	4.7		49.1	59.3		ng/L		111	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		49.1	53.1		ng/L		108	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	4.7		49.1	58.7		ng/L		110	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		49.1	54.4		ng/L		111	70 - 130	1	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1 MSD

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

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 243473

Prep Batch: 243397

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	4.6		49.1	60.8		ng/L		114	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS)	3.8		49.1	59.4		ng/L		113	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	2.5		49.1	58.3		ng/L		114	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		49.1	53.5		ng/L		109	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		49.1	42.2		ng/L		86	70 - 130	5	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		49.1	54.0		ng/L		110	70 - 130	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.1	55.7		ng/L		113	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.1	53.9		ng/L		110	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.1	53.4		ng/L		109	70 - 130	2	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	99		70 - 130								
13C2 PFHxA	108		70 - 130								
13C2 PFDA	111		70 - 130								
13C3-GenX	105		70 - 130								

QC Association Summary

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

LCMS

Prep Batch: 243397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
MBL 380-243397/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-243397/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-243397/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	

Prep Batch: 243406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
MBL 380-243406/20-A	Method Blank	Total/NA	Water	533	
LCS 380-243406/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-243406/21-A	Lab Control Sample	Total/NA	Water	533	
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	

Analysis Batch: 243473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	243397
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	243397
MBL 380-243397/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	243397
LCS 380-243397/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	243397
MRL 380-243397/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	243397
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	243397
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	243397

Analysis Batch: 243558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	243406
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	243406
MBL 380-243406/20-A	Method Blank	Total/NA	Water	533	243406
LCS 380-243406/22-A	Lab Control Sample	Total/NA	Water	533	243406
MRL 380-243406/21-A	Lab Control Sample	Total/NA	Water	533	243406
380-227793-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	243406
380-227793-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	243406

Lab Chronicle

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

Job ID: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-227793-1

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			243406	XTD8	EA POM	07/30/26 07:53
Total/NA	Analysis	533		1	243558	SZ9R	EA POM	07/30/26 17:49
Total/NA	Prep	537.1 DW			243397	G9MN	EA POM	07/30/26 02:40
Total/NA	Analysis	EPA 537.1 V2		1	243473	Y5FM	EA POM	07/30/26 14:05

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

Lab Sample ID: 380-227793-2

Date Collected: 07/27/26 12:26

Matrix: Water

Date Received: 07/29/26 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			243406	XTD8	EA POM	07/30/26 07:53
Total/NA	Analysis	533		1	243558	SZ9R	EA POM	07/30/26 21:10
Total/NA	Prep	537.1 DW			243397	G9MN	EA POM	07/30/26 02:40
Total/NA	Analysis	EPA 537.1 V2		1	243473	Y5FM	EA POM	07/30/26 18:25

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: 380-227793-1
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 *

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

Method Summary

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

Job ID: 380-227793-1
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: 380-227793-1
SDG: PFAS: Ka'amilo Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-227793-1	Ka'amilo Wells P1 (331-031-WL008)	Water	07/27/26 12:26	07/29/26 10:40	Hawaii
380-227793-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Water	07/27/26 12:26	07/29/26 10:40	Hawaii

Chain of Custody Record

Environment Testing
America

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 Filtered Sample (Yes or No) Uniform MSD (Yes or No) SUBCONTRACT - 625 PAH Physals LL (EAL) + TICs 6015B_GRO_LL - (MCD) GRO 313B_DRO_LL_CS - HNL Ranges. C10-C24/C24-C38/C8-L18 25.2_PREC - (MOD) 25plus PLUS TICs 37.1_DW_PREC - 53" 1 Full List 432 All Analytes Total Number of Containers																															
City Honolulu		TAT Requested (days) RUSH																																	
State Zip HI, 96843		Compliance Project. ☐ Yes ☒ 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 Site		Project # 38001111		Preservation Codes:																															
Site		SSOW#		<table border="0"> <tr> <td>A HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B NaOH</td> <td>N None</td> </tr> <tr> <td>C Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D Nitric Acid</td> <td>P - Na2O4S</td> </tr> <tr> <td>E NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F MeOH</td> <td>R Na2S2O3</td> </tr> <tr> <td>G Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Ascorbic Acid</td> <td>T TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V MCAA</td> </tr> <tr> <td>K EDTA</td> <td>W pH 4-5</td> </tr> <tr> <td>L EDA</td> <td>Y Trizma</td> </tr> <tr> <td></td> <td>Z Other (specify)</td> </tr> </table>						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)
A HCL	M - Hexane																																		
B NaOH	N None																																		
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D Nitric Acid	P - Na2O4S																																		
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J - DI Water	V MCAA																																		
K EDTA	W pH 4-5																																		
L EDA	Y Trizma																																		
	Z Other (specify)																																		
Special Instructions/N		 380-227793 COC																																	
Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=oil)																													
Ka'milo Wells P1 (331 031-WL008)		27 Jul-2026		1226		G		Water																											
B Ka'milo Wells P1 (331 031-WL008)		27 Jul 2026		1226				Water																											
Sample Disposal (A fee may be assessed if sample is not disposed of properly) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months Special Instructions/QC Requirements																																			
Relinquished by		Date		Time		Method of Shipment																													
[Redacted]		23 July 2026		1400		FedEx 8750 0467 3459																													
Relinquished by		Date/Time		Company		Received by		Date/Time																											
[Redacted]		23 July 2026		HBWS		Mark Lwamoto		7/29/26 1040																											
Relinquished by		Date/Time		Company		Received by		Date/Time																											
[Redacted]																																			
Custody Seals Intact		Custody Seal No		Cooler Temperature(s) °C and Other Remarks																															
☒ Yes ☐ No				(631A) 2.2 + 0.0 - 2.2 96/-10267																															

Chain of Custody Record

Environment Testing
America

Client Information		Sampler bailey		Lab PM Lopez, Maria		Carrier Tracking No(s)		COC No:																											
Client Contact kirk iwamoto		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 Filtered Sample (Yes or No) Uniform MSD (Yes or No) SUBCONTRACT - 625 PAH Physals LL (EAL) + TICs 6015B_GRO_LL - (MCD) GRO 313B_DRO_LL_CS - HNL Ranges. C10-C24/C24-C38/C8-L18 25.2_PREC - (MOD) 25plus PLUS TICs 37.1_DW_PREC - 53" 1 Full List 432 All Analytes Total Number of Containers																															
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Phone 808 748-5840 (tel)		PO # C20525101 exp 05312023																																	
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Project Name RED HILL/HBWS sites Event Desc. RUSH Weekly Red Hill Site		Project # 38001111		Preservation Codes: <table border="0"> <tr><td>A HCL</td><td>M - Hexane</td></tr> <tr><td>B NaOH</td><td>N None</td></tr> <tr><td>C Zn Acetate</td><td>O - AsNaO2</td></tr> <tr><td>D Nitric Acid</td><td>P - Na2O4S</td></tr> <tr><td>E NaHSO4</td><td>Q - Na2SO3</td></tr> <tr><td>F MeOH</td><td>R Na2S2O3</td></tr> <tr><td>G Amchlor</td><td>S - H2SO4</td></tr> <tr><td>H - Ascorbic Acid</td><td>T TSP Dodecahydrate</td></tr> <tr><td>I - Ice</td><td>U Acetone</td></tr> <tr><td>J - DI Water</td><td>V MCAA</td></tr> <tr><td>K EDTA</td><td>W pH 4-5</td></tr> <tr><td>L EDA</td><td>Y Trizma</td></tr> <tr><td></td><td>Z Other (specify)</td></tr> </table> Other:						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)
A HCL	M - Hexane																																		
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Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=oil)																													
Ka'milo Wells P1 (331 031-WL008)		27 Jul-2026		1226		G Water																													
B Ka'milo Wells P1 (331 031-WL008)		27 Jul 2026		1226		Water																													
☐ Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Disposal Requested I II III IV Other (specify)		Sample Disposal (A fee may be assessed if sample is not disposed of properly) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months		Special Instructions/QC Requirements																															
Relinquished by Date/Time Date/Time Date/Time		Date Date/Time Date/Time		Company HBWS Company Company		Method of Shipment Date/Time Date/Time Date/Time		Received by Received by Received by																											
Custody Seals Intact ☐ Yes ☐ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks																															

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-227793-1

SDG Number: PFAS: Ka'amilo Wells P1

Login Number: 227793

List Number: 1

Creator: Ngo, Theodore

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").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	