eurofins | Environment Testing

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 4/26/2026 4:28:03 PM

JOB DESCRIPTION

RED-HILL
PFAS: Ka'amilo Wells P1

JOB NUMBER

380-209870-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

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

Generated
4/26/2026 4:28:03 PM

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

Table of Contents

Definitions/Glossary

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

Qualifiers

LCMS

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
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

Job Narrative
380-209870-1

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 4/22/2026 10:22 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 3.7°C.

PFAS
Method EPA 537.1 V2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 380-222322 and analytical batch 380-222702 were outside control limits. LCS passed all QC limits.

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

Detection Summary

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-209870-1

PWSID Number: HI0000331

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)	2.2		2.0		ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.8		2.0		ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	4.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.2		2.0		ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.5		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.3		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.5		2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	4.0	F1	2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	4.3		2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9	F2	2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6	F2	2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2	F2	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: 380-209870-2

PWSID Number: HI0000331

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)
Date Collected: 04/20/26 12:34
Date Received: 04/22/26 10:22

Lab Sample ID: 380-209870-1
Matrix: Water
PWSID Number: HI0000331

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		04/23/26 16:56	04/24/26 10:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorohexanesulfonic acid (PFHxS)	**3.8**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorohexanoic acid (PFHxA)	**4.1**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorooctanesulfonic acid (PFOS)	**5.2**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorooctanoic acid (PFOA)	**4.5**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoropentanoic acid (PFPeA)	**4.3**		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C6 PFDA	*123*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C5 PFHxA	*120*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C4 PFHpA	*117*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C8 PFOA	*116*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C9 PFNA	*122*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C7 PFUnA	*124*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C2 PFDoA	*118*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C4 PFBA	*116*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C5 PFPeA	*125*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*
13C3 PFBS	*119*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:41*	*1*

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-209870-1

Date Collected: 04/20/26 12:34
Matrix: Water
Date Received: 04/22/26 10:22
PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	118		50 - 200	04/23/26 16:56	04/24/26 10:41	1
13C8 PFOS	122		50 - 200	04/23/26 16:56	04/24/26 10:41	1
13C2-4:2-FTS	140		50 - 200	04/23/26 16:56	04/24/26 10:41	1
13C2-6:2-FTS	134		50 - 200	04/23/26 16:56	04/24/26 10:41	1
13C2-8:2-FTS	129		50 - 200	04/23/26 16:56	04/24/26 10:41	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	F1 F2	2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorooctanesulfonic acid (PFOS)	**5.5**		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorohexanoic acid (PFHxA)	**4.0**	**F1**	2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorooctanoic acid (PFOA)	**4.3**		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorohexanesulfonic acid (PFHxS)	**3.9**	**F2**	2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	**F2**	2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluoroheptanoic acid (PFHpA)	**2.2**	**F2**	2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorotetradecanoic acid (PFTA)	<2.0	F1	2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130	04/24/26 01:00	04/24/26 11:45	1
13C2 PFHxA	106		70 - 130	04/24/26 01:00	04/24/26 11:45	1
13C2 PFDA	106		70 - 130	04/24/26 01:00	04/24/26 11:45	1
13C3-GenX	102		70 - 130	04/24/26 01:00	04/24/26 11:45	1

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

Lab Sample ID: 380-209870-2

Date Collected: 04/20/26 12:34
Matrix: Water
Date Received: 04/22/26 10:22
PWSID Number: HI0000331

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		04/23/26 16:56	04/24/26 10:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)
Date Collected: 04/20/26 12:34
Date Received: 04/22/26 10:22

Lab Sample ID: 380-209870-2
Matrix: Water
PWSID Number: HI0000331

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		04/23/26 16:56	04/24/26 10:51	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		04/23/26 16:56	04/24/26 10:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*109*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C6 PFDA	*117*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C5 PFHxA	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C4 PFHpA	*113*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C8 PFOA	*111*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C9 PFNA	*117*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C7 PFUnA	*115*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C2 PFDoA	*118*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C4 PFBA	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C5 PFPeA	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C3 PFBS	*107*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C3 PFHxS	*106*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C8 PFOS	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C2-4:2-FTS	*127*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C2-6:2-FTS	*113*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*
13C2-8:2-FTS	*120*		*50 - 200*	*04/23/26 16:56*	*04/24/26 10:51*	*1*

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)
Date Collected: 04/20/26 12:34
Date Received: 04/22/26 10:22

Lab Sample ID: 380-209870-2
Matrix: Water
PWSID Number: HI0000331

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		04/24/26 01:00	04/24/26 12:32	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/24/26 01:00	04/24/26 12:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*99*		*70 - 130*	*04/24/26 01:00*	*04/24/26 12:32*	*1*
13C2 PFHxA	*101*		*70 - 130*	*04/24/26 01:00*	*04/24/26 12:32*	*1*
13C2 PFDA	*103*		*70 - 130*	*04/24/26 01:00*	*04/24/26 12:32*	*1*
13C3-GenX	*97*		*70 - 130*	*04/24/26 01:00*	*04/24/26 12:32*	*1*

Action Limit Summary

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-209870-1

PWSID Number: HI0000331

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)	3.8		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	**5.2**		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	F1 F2	ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	**5.5**		ng/L	**4**	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	**4.3**		ng/L	**4**	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9	F2	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: 380-209870-2

PWSID Number: HI0000331

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: 380-209870-1
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**

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	106	106	106	102
380-209870-1 MS	Ka'amilo Wells P1 (331-031-WL008)	104	101	104	98
380-209870-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	95	72	95	72
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	99	101	103	97
LCS 380-222322/21-A	Lab Control Sample	98	101	100	94
MBL 380-222322/19-A	Method Blank	108	114	110	100
MRL 380-222322/20-A	Lab Control Sample	107	112	113	108

Surrogate Legend

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

Isotope Dilution Summary

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

Job ID: 380-209870-1
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)							
		HFPODA	C6PFDA	13C5PHA	C4PFHA	C8PFOA	C9PFNA	13C7PUA	PFDoA
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	112	123	120	117	116	122	124	118
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	109	117	112	113	111	117	115	118
380-209992-B-1-A MSD	Matrix Spike Duplicate	104	112	107	106	108	112	113	112
380-209992-C-1-A MS	Matrix Spike	114	113	117	107	109	116	118	110
LCS 380-222460/22-A	Lab Control Sample	109	113	116	109	112	114	116	119
MBL 380-222460/20-A	Method Blank	106	118	116	109	113	116	112	116
MRL 380-222460/21-A	Lab Control Sample	105	117	116	112	113	115	115	119

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	C3PFBS	C3PFHS	C8PFOS	42FTS	62FTS	82FTS
Lab Sample ID	Client Sample ID	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)	(50-200)
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	116	125	119	118	122	140	134	129
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	112	112	107	106	112	127	113	120
380-209992-B-1-A MSD	Matrix Spike Duplicate	107	110	107	104	107	114	120	115
380-209992-C-1-A MS	Matrix Spike	112	113	108	105	106	119	116	117
LCS 380-222460/22-A	Lab Control Sample	113	113	111	107	112	122	124	125
MBL 380-222460/20-A	Method Blank	112	111	112	107	113	123	125	119
MRL 380-222460/21-A	Lab Control Sample	107	114	109	105	112	126	122	117

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
13C7PUA = 13C7 PFUnA
PFDoA = 13C2 PFDoA
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

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

Lab Sample ID: MBL 380-222460/20-A
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222460

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		04/23/26 16:56	04/24/26 07:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		04/23/26 16:56	04/24/26 07:33	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C6 PFDA	*118*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C5 PFHxA	*116*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C4 PFHpA	*109*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C8 PFOA	*113*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C9 PFNA	*116*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C7 PFUnA	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C2 PFDoA	*116*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C4 PFBA	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C5 PFPeA	*111*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C3 PFBS	*112*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*
13C3 PFHxS	*107*		*50 - 200*	*04/23/26 16:56*	*04/24/26 07:33*	*1*

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

Lab Sample ID: MBL 380-222460/20-A
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222460

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	113		50 - 200	04/23/26 16:56	04/24/26 07:33	1
13C2-4:2-FTS	123		50 - 200	04/23/26 16:56	04/24/26 07:33	1
13C2-6:2-FTS	125		50 - 200	04/23/26 16:56	04/24/26 07:33	1
13C2-8:2-FTS	119		50 - 200	04/23/26 16:56	04/24/26 07:33	1

Lab Sample ID: LCS 380-222460/22-A
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222460

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	110		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	111		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	120		ng/L		100	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	117		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	110		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	120	118		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	120	111		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	116		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	115		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	120	115		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	120	114		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	108		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	120	117		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	120		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	120	115		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	113		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	116		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	112		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	111		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	111		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	115		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	110		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	120	113		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	115		ng/L		96	70 - 130

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

Lab Sample ID: LCS 380-222460/22-A
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222460

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	123		ng/L		103	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*109*		*50 - 200*
13C6 PFDA	*113*		*50 - 200*
13C5 PFHxA	*116*		*50 - 200*
13C4 PFHpA	*109*		*50 - 200*
13C8 PFOA	*112*		*50 - 200*
13C9 PFNA	*114*		*50 - 200*
13C7 PFUnA	*116*		*50 - 200*
13C2 PFDoA	*119*		*50 - 200*
13C4 PFBA	*113*		*50 - 200*
13C5 PFPeA	*113*		*50 - 200*
13C3 PFBS	*111*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*112*		*50 - 200*
13C2-4:2-FTS	*122*		*50 - 200*
13C2-6:2-FTS	*124*		*50 - 200*
13C2-8:2-FTS	*125*		*50 - 200*

Lab Sample ID: MRL 380-222460/21-A
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222460

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.06	J	ng/L		103	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.03	J	ng/L		101	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.28	J	ng/L		114	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.27	J	ng/L		114	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.16	J	ng/L		108	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.04	J	ng/L		102	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.19	J	ng/L		110	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.20	J	ng/L		110	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.19	J	ng/L		110	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.23	J	ng/L		112	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.28	J	ng/L		114	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.18	J	ng/L		109	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.31	J	ng/L		116	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.24	J	ng/L		112	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	2.22	J	ng/L		111	50 - 150		

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

Lab Sample ID: MRL 380-222460/21-A
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222460

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.29	J	ng/L		115	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.39	J	ng/L		120	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.50	J	ng/L		125	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.31	J	ng/L		116	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.15	J	ng/L		108	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.21	J	ng/L		111	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.17	J	ng/L		109	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.29	J	ng/L		114	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*105*		*50 - 200*
13C6 PFDA	*117*		*50 - 200*
13C5 PFHxA	*116*		*50 - 200*
13C4 PFHpA	*112*		*50 - 200*
13C8 PFOA	*113*		*50 - 200*
13C9 PFNA	*115*		*50 - 200*
13C7 PFUnA	*115*		*50 - 200*
13C2 PFDoA	*119*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*114*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C3 PFHxS	*105*		*50 - 200*
13C8 PFOS	*112*		*50 - 200*
13C2-4:2-FTS	*126*		*50 - 200*
13C2-6:2-FTS	*122*		*50 - 200*
13C2-8:2-FTS	*117*		*50 - 200*

Lab Sample ID: 380-209992-B-1-A MSD
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 222460

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	112		ng/L		94	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	119		ng/L		99	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	122		ng/L		101	70 - 130	2	30

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

Lab Sample ID: 380-209992-B-1-A MSD
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 222460

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		120	113		ng/L		94	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	113		ng/L		94	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		120	111		ng/L		92	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	114		ng/L		95	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	120		ng/L		100	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	118		ng/L		98	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	111		ng/L		92	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		120	118		ng/L		98	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	117		ng/L		98	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		120	119		ng/L		99	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	117		ng/L		97	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		120	118		ng/L		98	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	118		ng/L		99	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	118		ng/L		98	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	115		ng/L		96	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	115		ng/L		95	70 - 130	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		120	113		ng/L		94	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	121		ng/L		100	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	111		ng/L		93	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	116		ng/L		96	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	115		ng/L		96	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	120		ng/L		99	70 - 130	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*104*		*50 - 200*
13C6 PFDA	*112*		*50 - 200*
13C5 PFHxA	*107*		*50 - 200*
13C4 PFHpA	*106*		*50 - 200*
13C8 PFOA	*108*		*50 - 200*
13C9 PFNA	*112*		*50 - 200*
13C7 PFUnA	*113*		*50 - 200*
13C2 PFDoA	*112*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*110*		*50 - 200*
13C3 PFBS	*107*		*50 - 200*
13C3 PFHxS	*104*		*50 - 200*
13C8 PFOS	*107*		*50 - 200*

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

Lab Sample ID: 380-209992-B-1-A MSD
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 222460

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	120		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: 380-209992-C-1-A MS
Matrix: Water
Analysis Batch: 222660

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 222460

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		120	113		ng/L		94	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	115		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	124		ng/L		103	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	113		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	114		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	118		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	117		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	121		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	117		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	111		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	119		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	119		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	115		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	112		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	108		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		120	118		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	117		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	117		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	111		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	115		ng/L		96	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	119		ng/L		98	70 - 130

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

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	114		50 - 200
13C6 PFDA	113		50 - 200
13C5 PFHxA	117		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	116		50 - 200
13C7 PFUnA	118		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	119		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	117		50 - 200

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

Lab Sample ID: MBL 380-222322/19-A
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222322

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		04/24/26 01:00	04/24/26 11:16	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130	04/24/26 01:00	04/24/26 11:16	1
13C2 PFHxA	114		70 - 130	04/24/26 01:00	04/24/26 11:16	1
13C2 PFDA	110		70 - 130	04/24/26 01:00	04/24/26 11:16	1

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

Lab Sample ID: MBL 380-222322/19-A
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222322

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	100		70 - 130	04/24/26 01:00	04/24/26 11:16	1

Lab Sample ID: LCS 380-222322/21-A
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.0	44.6		ng/L		89	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.0	49.0		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	46.4		ng/L		93	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	46.9		ng/L		94	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	45.1		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	44.5		ng/L		89	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	46.3		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	49.5		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	45.8		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	49.3		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	51.2		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	46.5		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	50.0	48.1		ng/L		96	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	38.9		ng/L		78	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	47.1		ng/L		94	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	49.5		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	48.5		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	44.3		ng/L		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	101		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	94		70 - 130

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

Lab Sample ID: MRL 380-222322/20-A
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222322

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.80	J	ng/L		90	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.95	J	ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.88	J	ng/L		94	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.86	J	ng/L		93	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.76	J	ng/L		88	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.91	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.82	J	ng/L		91	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.95	J	ng/L		98	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.95	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.05	J	ng/L		103	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.54	J	ng/L		77	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	1.82	J	ng/L		91	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.96	J	ng/L		98	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.83	J	ng/L		91	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.78	J	ng/L		89	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*107*		*70 - 130*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*113*		*70 - 130*
13C3-GenX	*108*		*70 - 130*

Lab Sample ID: 380-209870-1 MS
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)
Prep Type: Total/NA
Prep Batch: 222322

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	F1 F2	50.2	46.4		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.5		50.2	54.3		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	45.0		ng/L		90	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	51.0		ng/L		102	70 - 130

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

Lab Sample ID: 380-209870-1 MS
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)
Prep Type: Total/NA
Prep Batch: 222322

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	48.9		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	4.0	F1	50.2	49.9		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	44.7		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	4.3		50.2	53.2		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.2	49.0		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.9	F2	50.2	54.1		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	3.6	F2	50.2	56.8		ng/L		106	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.2	F2	50.2	51.3		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.2	47.6		ng/L		95	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0	F1	50.2	36.4		ng/L		72	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	48.6		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	49.4		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	49.2		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	47.4		ng/L		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*104*		*70 - 130*
13C2 PFHxA	*101*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*
13C3-GenX	*98*		*70 - 130*

Lab Sample ID: 380-209870-1 MSD
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)
Prep Type: Total/NA
Prep Batch: 222322

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	F1 F2	50.1	32.7	F1 F2	ng/L		65	70 - 130	34	30
Perfluorooctanesulfonic acid (PFOS)	5.5		50.1	49.0		ng/L		87	70 - 130	10	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.1	44.0		ng/L		88	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.1	44.8		ng/L		89	70 - 130	13	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.1	42.7		ng/L		85	70 - 130	14	30
Perfluorohexanoic acid (PFHxA)	4.0	F1	50.1	38.0	F1	ng/L		68	70 - 130	27	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.1	40.9		ng/L		82	70 - 130	9	30
Perfluorooctanoic acid (PFOA)	4.3		50.1	41.2		ng/L		74	70 - 130	25	30
Perfluorodecanoic acid (PFDA)	<2.0		50.1	46.0		ng/L		92	70 - 130	6	30

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

Lab Sample ID: 380-209870-1 MSD
Matrix: Water
Analysis Batch: 222702

Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)
Prep Type: Total/NA
Prep Batch: 222322

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	3.9	F2	50.1	39.8	F2	ng/L		72	70 - 130	31	30
Perfluorobutanesulfonic acid (PFBS)	3.6	F2	50.1	39.3	F2	ng/L		71	70 - 130	36	30
Perfluoroheptanoic acid (PFHpA)	2.2	F2	50.1	37.0	F2	ng/L		70	70 - 130	32	30
Perfluorononanoic acid (PFNA)	<2.0		50.1	42.5		ng/L		85	70 - 130	11	30
Perfluorotetradecanoic acid (PFTA)	<2.0	F1	50.1	34.8	F1	ng/L		69	70 - 130	5	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.1	42.4		ng/L		85	70 - 130	14	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.1	45.0		ng/L		90	70 - 130	9	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.1	44.4		ng/L		89	70 - 130	10	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.1	35.0		ng/L		70	70 - 130	30	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*95*		*70 - 130*
13C2 PFHxA	*72*		*70 - 130*
13C2 PFDA	*95*		*70 - 130*
13C3-GenX	*72*		*70 - 130*

LCMS

Prep Batch: 222322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
MBL 380-222322/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-222322/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-222322/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-209870-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-209870-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	

Prep Batch: 222460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
MBL 380-222460/20-A	Method Blank	Total/NA	Water	533	
LCS 380-222460/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-222460/21-A	Lab Control Sample	Total/NA	Water	533	
380-209992-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	
380-209992-C-1-A MS	Matrix Spike	Total/NA	Water	533	

Analysis Batch: 222660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	222460
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	222460
MBL 380-222460/20-A	Method Blank	Total/NA	Water	533	222460
LCS 380-222460/22-A	Lab Control Sample	Total/NA	Water	533	222460
MRL 380-222460/21-A	Lab Control Sample	Total/NA	Water	533	222460
380-209992-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	222460
380-209992-C-1-A MS	Matrix Spike	Total/NA	Water	533	222460

Analysis Batch: 222702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	222322
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	222322
MBL 380-222322/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	222322
LCS 380-222322/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	222322
MRL 380-222322/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	222322
380-209870-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	222322
380-209870-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	222322

Lab Chronicle

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

Job ID: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

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

Lab Sample ID: 380-209870-1

Date Collected: 04/20/26 12:34
Matrix: Water
Date Received: 04/22/26 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			222460	E2HD	EA POM	04/23/26 16:56
Total/NA	Analysis	533		1	222660	SZ9R	EA POM	04/24/26 10:41
Total/NA	Prep	537.1 DW			222322	G9MN	EA POM	04/24/26 01:00
Total/NA	Analysis	EPA 537.1 V2		1	222702	Y5FM	EA POM	04/24/26 11:45

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

Lab Sample ID: 380-209870-2

Date Collected: 04/20/26 12:34
Matrix: Water
Date Received: 04/22/26 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			222460	E2HD	EA POM	04/23/26 16:56
Total/NA	Analysis	533		1	222660	SZ9R	EA POM	04/24/26 10:51
Total/NA	Prep	537.1 DW			222322	G9MN	EA POM	04/24/26 01:00
Total/NA	Analysis	EPA 537.1 V2		1	222702	Y5FM	EA POM	04/24/26 12:32

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: 380-209870-1
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: 380-209870-1
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: 380-209870-1
SDG: PFAS: Ka'amilo Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-209870-1	Ka'amilo Wells P1 (331-031-WL008)	Water	04/20/26 12:34	04/22/26 10:22	HI0000331
380-209870-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Water	04/20/26 12:34	04/22/26 10:22	HI0000331

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

Chain of Custody Record

eurofins | Environment Testing

380-209870 COC

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:			Job #:
Address: 630 South Beretania Street, Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days): RUSH			
State, Zip: HI, 96843	Compliance Project: Δ 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#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				R	A	Q	QA	Y	I		
Ka'amilo Wells P1 (331-031-WL008)	20-Apr-2026	1234	G	Water							3	3		
FB: Ka'amilo Wells P1 (331-031-WL008)	20-Apr-2026	1234		Water							1	1		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment: FedX. 8709 2197 2093

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[redacted]	21 Apr 2026 1400	HBWS	Mark Urutis	4/22/26 1022	ETHP

Custody Seals Intact. Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: (53/1) 3.5+0.2=3.7 gel-frozen

Ver: 01/16/2019 4/26/2026

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-209870-1
SDG Number: PFAS: Ka'amilo Wells P1

Login Number: 209870
List Number: 1
Creator: Del Rosario, Michael

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	
ClO4 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	