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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
PFAS: Moanalua Wells

JOB NUMBER

380-204772-1

Eurofins Pomona

Job Notes

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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



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



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Definitions/Glossary

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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: 380-204772-1

Job ID: 380-204772-1

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Job Narrative 380-204772-1

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 3/25/2026 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C.

PFAS

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

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Detection Summary

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-204772-1

No Detections.

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)
PWSID Number: HI0000331

Lab Sample ID: 380-204772-2

No Detections.

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This Detection Summary does not include radiochemical test results.

Client Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-1

Date Collected: 03/23/26 10:26

Matrix: Drinking Water

Date Received: 03/25/26 10:00

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-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C6 PFDA	102		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C5 PFHxA	95		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C4 PFHpA	105		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C8 PFOA	111		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C9 PFNA	106		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C7 PFUnA	103		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C2 PFDoA	104		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C4 PFBA	109		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C5 PFPeA	111		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C3 PFBS	106		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C3 PFHxS	107		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C8 PFOS	106		50 - 200	03/28/26 15:36	03/29/26 19:27	1

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Client Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-1

Date Collected: 03/23/26 10:26

Matrix: Drinking Water

Date Received: 03/25/26 10:00

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	125		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C2-6:2-FTS	122		50 - 200	03/28/26 15:36	03/29/26 19:27	1
13C2-8:2-FTS	121		50 - 200	03/28/26 15:36	03/29/26 19:27	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		03/27/26 01:27	03/27/26 18:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			03/27/26 01:27	03/27/26 18:36	1
13C2 PFHxA	106		70 - 130			03/27/26 01:27	03/27/26 18:36	1
13C2 PFDA	111		70 - 130			03/27/26 01:27	03/27/26 18:36	1
13C3-GenX	98		70 - 130			03/27/26 01:27	03/27/26 18:36	1

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-2

Date Collected: 03/23/26 10:26

Matrix: Water

Date Received: 03/25/26 10:00

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-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1

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Client Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-2

Date Collected: 03/23/26 10:26

Matrix: Water

Date Received: 03/25/26 10:00

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
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/28/26 15:36	03/29/26 19:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C6 PFDA	104		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C5 PFHxA	95		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C4 PFHpA	103		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C8 PFOA	107		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C9 PFNA	106		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C7 PFUnA	99		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C2 PFDoA	100		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C4 PFBA	107		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C5 PFPeA	109		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C3 PFBS	103		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C3 PFHxS	105		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C8 PFOS	108		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C2-4:2-FTS	120		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C2-6:2-FTS	125		50 - 200	03/28/26 15:36	03/29/26 19:37	1
13C2-8:2-FTS	121		50 - 200	03/28/26 15:36	03/29/26 19:37	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		03/27/26 01:27	03/27/26 18:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-2

Date Collected: 03/23/26 10:26

Matrix: Water

Date Received: 03/25/26 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/27/26 01:27	03/27/26 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		70 - 130	03/27/26 01:27	03/27/26 18:47	1
13C2 PFHxA	90		70 - 130	03/27/26 01:27	03/27/26 18:47	1
13C2 PFDA	106		70 - 130	03/27/26 01:27	03/27/26 18:47	1
13C3-GenX	78		70 - 130	03/27/26 01:27	03/27/26 18:47	1

Action Limit Summary

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-1

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

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-2

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

Surrogate Summary

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

Job ID: 380-204772-1
 SDG: PFAS: Moanalua Wells

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

Matrix: Drinking 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)
380-204772-1	MOANALUA WELLS (331-223-T	102	106	111	98

Surrogate Legend

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

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)
380-204764-B-1-A MS	Matrix Spike	106	106	110	101
380-204764-C-1-A MSD	Matrix Spike Duplicate	95	101	106	93
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	94	90	106	78
LCS 380-215916/21-A	Lab Control Sample	98	101	103	97
MBL 380-215916/19-A	Method Blank	117	114	118	109
MRL 380-215916/20-A	Lab Control Sample	94	94	104	80

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: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Matrix: Drinking 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)
380-204772-1	MOANALUA WELLS (331-223-T	95	102	95	105	111	106	103	104

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)
380-204772-1	MOANALUA WELLS (331-223-T	109	111	106	107	106	125	122	121

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

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)
380-204767-E-1-A MS	Matrix Spike	93	102	94	106	109	105	107	106
380-204767-F-1-A MSD	Matrix Spike Duplicate	91	103	96	101	111	105	104	109
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	91	104	95	103	107	106	99	100
LCS 380-216395/22-A	Lab Control Sample	94	108	96	101	105	105	114	113
MBL 380-216395/20-A	Method Blank	92	102	103	107	113	108	102	112
MRL 380-216395/21-A	Lab Control Sample	82	98	89	99	107	99	101	102

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)
380-204767-E-1-A MS	Matrix Spike	107	103	108	103	106	121	126	130
380-204767-F-1-A MSD	Matrix Spike Duplicate	109	108	101	102	101	117	120	126
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	107	109	103	105	108	120	125	121
LCS 380-216395/22-A	Lab Control Sample	104	101	100	101	105	116	117	125
MBL 380-216395/20-A	Method Blank	113	114	108	105	110	129	137	135
MRL 380-216395/21-A	Lab Control Sample	103	104	104	107	108	128	122	127

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA

Isotope Dilution Summary

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: MBL 380-216395/20-A
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 216395

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		03/28/26 15:36	03/29/26 17:20	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C6 PFDA	102		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C5 PFHxA	103		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C4 PFHpA	107		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C8 PFOA	113		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C9 PFNA	108		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C7 PFUnA	102		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C2 PFDoA	112		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C4 PFBA	113		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C5 PFPeA	114		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C3 PFBS	108		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C3 PFHxS	105		50 - 200	03/28/26 15:36	03/29/26 17:20	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: MBL 380-216395/20-A
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 216395

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	110		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C2-4:2-FTS	129		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C2-6:2-FTS	137		50 - 200	03/28/26 15:36	03/29/26 17:20	1
13C2-8:2-FTS	135		50 - 200	03/28/26 15:36	03/29/26 17:20	1

Lab Sample ID: LCS 380-216395/22-A
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 216395

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	115		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	117		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	116		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	118		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	120		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	120	111		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	120	115		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	117		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	115		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	120	111		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	120	118		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	116		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	120	119		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	115		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	121		ng/L		101	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	107		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	123		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	114		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	119		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	120	118		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	123		ng/L		103	70 - 130

QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: LCS 380-216395/22-A
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 216395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	129		ng/L		107	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	94		50 - 200				
13C6 PFDA	108		50 - 200				
13C5 PFHxA	96		50 - 200				
13C4 PFHpA	101		50 - 200				
13C8 PFOA	105		50 - 200				
13C9 PFNA	105		50 - 200				
13C7 PFUnA	114		50 - 200				
13C2 PFDoA	113		50 - 200				
13C4 PFBA	104		50 - 200				
13C5 PFPeA	101		50 - 200				
13C3 PFBS	100		50 - 200				
13C3 PFHxS	101		50 - 200				
13C8 PFOS	105		50 - 200				
13C2-4:2-FTS	116		50 - 200				
13C2-6:2-FTS	117		50 - 200				
13C2-8:2-FTS	125		50 - 200				

Lab Sample ID: MRL 380-216395/21-A
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 216395

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.41	J	ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.65	J	ng/L		132	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.56	J	ng/L		128	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.61	J	ng/L		130	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.55	J	ng/L		127	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.54	J	ng/L		127	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.56	J	ng/L		128	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.57	J	ng/L		128	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.53	J	ng/L		126	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.65	J	ng/L		132	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.70	J	ng/L		135	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.58	J	ng/L		129	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.70	J	ng/L		135	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.58	J	ng/L		129	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.48	J	ng/L		124	50 - 150

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QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: MRL 380-216395/21-A
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 216395

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.75	J	ng/L		137	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.63	J	ng/L		131	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.85	J	ng/L		142	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.73	J	ng/L		136	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.66	J	ng/L		133	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.50	J	ng/L		125	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.66	J	ng/L		133	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.65	J	ng/L		132	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.64	J	ng/L		132	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.79	J	ng/L		139	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	82		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	89		50 - 200
13C4 PFHpA	99		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	99		50 - 200
13C7 PFUnA	101		50 - 200
13C2 PFDoA	102		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	104		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	128		50 - 200
13C2-6:2-FTS	122		50 - 200
13C2-8:2-FTS	127		50 - 200

Lab Sample ID: 380-204767-E-1-A MS
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 216395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	57.9		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	60.3		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	57.5		ng/L		96	70 - 130

QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: 380-204767-E-1-A MS
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 216395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.1	60.1		ng/L		100	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	56.6		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	56.7		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	61.0		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	56.5		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	59.9		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	59.5		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	57.4		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	58.5		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.1	61.2		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	58.5		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.1	58.0		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	58.0		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	56.9		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	59.2		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	60.4		ng/L		100	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.1	57.9		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	60.2		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	60.2		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	62.1		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	65.9		ng/L		110	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	65.4		ng/L		109	70 - 130

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
13C3 HFPO-DA	93		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	106		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	103		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	106		50 - 200

QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: 380-204767-E-1-A MS
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 216395

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	121		50 - 200
13C2-6:2-FTS	126		50 - 200
13C2-8:2-FTS	130		50 - 200

Lab Sample ID: 380-204767-F-1-A MSD
Matrix: Water
Analysis Batch: 216461

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 216395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	57.9		ng/L		96	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	64.7		ng/L		107	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	61.9		ng/L		103	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	61.0		ng/L		101	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	60.5		ng/L		100	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	61.3		ng/L		102	70 - 130	8	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.2		ng/L		100	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	59.5		ng/L		99	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	58.3		ng/L		96	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	60.4		ng/L		99	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	60.3		ng/L		100	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	61.3		ng/L		102	70 - 130	5	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	61.2		ng/L		102	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	62.3		ng/L		103	70 - 130	6	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	59.3		ng/L		98	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	59.4		ng/L		99	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	58.5		ng/L		97	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.3		ng/L		102	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	68.0		ng/L		113	70 - 130	12	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	62.3		ng/L		103	70 - 130	7	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.8		ng/L		99	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	60.5		ng/L		100	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	63.9		ng/L		105	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	67.2		ng/L		112	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	65.6		ng/L		109	70 - 130	0	30

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QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	91		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	101		50 - 200
13C3 PFHxS	102		50 - 200
13C8 PFOS	101		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	120		50 - 200
13C2-8:2-FTS	126		50 - 200

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

Lab Sample ID: MBL 380-215916/19-A
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 215916

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/27/26 01:27	03/27/26 16:03	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	117		70 - 130			03/27/26 01:27	03/27/26 16:03	1
13C2 PFHxA	114		70 - 130			03/27/26 01:27	03/27/26 16:03	1
13C2 PFDA	118		70 - 130			03/27/26 01:27	03/27/26 16:03	1

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QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: MBL 380-215916/19-A
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 215916

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	109	Qualifier	70 - 130	03/27/26 01:27	03/27/26 16:03	1

Lab Sample ID: LCS 380-215916/21-A
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 215916

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>					
Hexafluoropropylene Oxide	50.0	46.1		ng/L		92		70 - 130
Dimer Acid (HFPO-DA/GenX)								
Perfluorooctanesulfonic acid (PFOS)	50.0	48.3		ng/L		97		70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	49.7		ng/L		99		70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	49.6		ng/L		99		70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	47.4		ng/L		95		70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	47.9		ng/L		96		70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	50.5		ng/L		101		70 - 130
Perfluorooctanoic acid (PFOA)	50.0	49.3		ng/L		99		70 - 130
Perfluorodecanoic acid (PFDA)	50.0	49.2		ng/L		98		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	49.8		ng/L		100		70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	48.4		ng/L		97		70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	48.4		ng/L		97		70 - 130
Perfluorononanoic acid (PFNA)	50.0	48.9		ng/L		98		70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	45.9		ng/L		92		70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	47.3		ng/L		95		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	50.2		ng/L		100		70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	47.8		ng/L		96		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	47.5		ng/L		95		70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	101		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	97		70 - 130

QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: MRL 380-215916/20-A
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 215916

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.60	J	ng/L		80	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.12	J	ng/L		106	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.87	J	ng/L		93	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.15	J	ng/L		107	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.08	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.16	J	ng/L		108	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.03	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.76	J	ng/L		88	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	94		70 - 130
13C2 PFHxA	94		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	80		70 - 130

Lab Sample ID: 380-204764-B-1-A MS
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 215916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	44.3		ng/L		88	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	50.4		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	49.9		ng/L		99	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	47.2		ng/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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

Lab Sample ID: 380-204764-B-1-A MS
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 215916

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	48.1		ng/L		96	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	48.3		ng/L		95	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	50.0		ng/L		100	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		50.2	49.3		ng/L		98	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		50.2	49.8		ng/L		99	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.2	51.1		ng/L		101	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	50.9		ng/L		101	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	48.6		ng/L		97	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		50.2	50.3		ng/L		100	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	45.5		ng/L		91	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	48.2		ng/L		96	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	50.0		ng/L		100	70 - 130		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid(11Cl-PF3OUdS)	<2.0		50.2	49.5		ng/L		99	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	46.9		ng/L		93	70 - 130		
MS MS											
Surrogate	%Recovery	Qualifier	Limits								
d5-NEtFOSAA	106		70 - 130								
13C2 PFHxA	106		70 - 130								
13C2 PFDA	110		70 - 130								
13C3-GenX	101		70 - 130								

Lab Sample ID: 380-204764-C-1-A MSD
Matrix: Water
Analysis Batch: 216283

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 215916

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	43.6		ng/L		87	70 - 130	1	30	
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	49.6		ng/L		99	70 - 130	2	30	
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	50.9		ng/L		101	70 - 130	2	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	45.9		ng/L		91	70 - 130	3	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		50.2	45.4		ng/L		90	70 - 130	6	30	
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	47.7		ng/L		93	70 - 130	1	30	
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	50.2		ng/L		100	70 - 130	0	30	
Perfluorooctanoic acid (PFOA)	<2.0		50.2	49.6		ng/L		99	70 - 130	1	30	
Perfluorodecanoic acid (PFDA)	<2.0		50.2	50.8		ng/L		101	70 - 130	2	30	

Eurofins Pomona

QC Association Summary

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

LCMS

Prep Batch: 215916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204772-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	537.1 DW	
MBL 380-215916/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-215916/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-215916/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-204764-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-204764-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 216283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204772-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	EPA 537.1 V2	215916
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	EPA 537.1 V2	215916
MBL 380-215916/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	215916
LCS 380-215916/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	215916
MRL 380-215916/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	215916
380-204764-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	215916
380-204764-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	215916

Prep Batch: 216395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204772-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	
MBL 380-216395/20-A	Method Blank	Total/NA	Water	533	
LCS 380-216395/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-216395/21-A	Lab Control Sample	Total/NA	Water	533	
380-204767-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-204767-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 216461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204772-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	216395
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	Total/NA	Water	533	216395
MBL 380-216395/20-A	Method Blank	Total/NA	Water	533	216395
LCS 380-216395/22-A	Lab Control Sample	Total/NA	Water	533	216395
MRL 380-216395/21-A	Lab Control Sample	Total/NA	Water	533	216395
380-204767-E-1-A MS	Matrix Spike	Total/NA	Water	533	216395
380-204767-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	216395

Lab Chronicle

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

Job ID: 380-204772-1
 SDG: PFAS: Moanalua Wells

Client Sample ID: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-1

Date Collected: 03/23/26 10:26

Matrix: Drinking Water

Date Received: 03/25/26 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			216395	N8NE	EA POM	03/28/26 15:36
Total/NA	Analysis	533		1	216461	SZ9R	EA POM	03/29/26 19:27
Total/NA	Prep	537.1 DW			215916	G9MN	EA POM	03/27/26 01:27
Total/NA	Analysis	EPA 537.1 V2		1	216283	Y5FM	EA POM	03/27/26 18:36

Client Sample ID: FB: MOANALUA WELLS (331-223-TP202)

Lab Sample ID: 380-204772-2

Date Collected: 03/23/26 10:26

Matrix: Water

Date Received: 03/25/26 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			216395	N8NE	EA POM	03/28/26 15:36
Total/NA	Analysis	533		1	216461	SZ9R	EA POM	03/29/26 19:37
Total/NA	Prep	537.1 DW			215916	G9MN	EA POM	03/27/26 01:27
Total/NA	Analysis	EPA 537.1 V2		1	216283	Y5FM	EA POM	03/27/26 18:47

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: 380-204772-1
SDG: PFAS: Moanalua Wells

Laboratory: Eurofins Pomona

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

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

- 1
- 2
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* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

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

Job ID: 380-204772-1
SDG: PFAS: Moanalua Wells

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: 380-204772-1
SDG: PFAS: Moanalua Wells

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-204772-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	03/23/26 10:26	03/25/26 10:00	HI0000331
380-204772-2	FB: MOANALUA WELLS (331-223-TP202)	Water	03/23/26 10:26	03/25/26 10:00	HI0000331

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

Chain of Custody Record



Env
 Air



Client Information Client Contact: kirik Iwamoto Phone: +1 808 748 5840 City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Lab Pw: Lopez, Maria E-Mail: Maria.Lopez@et.eurofins.com PWSID:		Carrier Tracking No(s): State of Origin: Page: Page 1 of 1 Job #:		COC No: 380-204772 COC	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> No PO #: C20525101 exp 05312023 WO #:		Analysis Requested 8016B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18 8016B_GRO_LL - (MOD) GRO 8016B_PREC - (MOD) 825plus PLUS TICs 837_1_DW_PREC - 837.1 Full List 833 - All Analytes		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 Other:		Special Instructions/Note: chlorinated	
Sample Identification Moanua Wells (331-223-TP202)		Sample Date: 23-Mar-2026 Sample Time: 1026 Sample Type (C=Comp, G=grab): G Matrix (Water, Snow/Ice, Organics, etc.): Water		Field Filled Sample (Yes or No) <input checked="" type="checkbox"/> Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 8016B_CONTRACT - 825 PAH Physis LL (EAL) + TICs 8016B_GRO_LL - (MOD) GRO 8016B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18 825.2_PREC - (MOD) 825plus PLUS TICs 837_1_DW_PREC - 837.1 Full List 833 - All Analytes		Total Number of Containers: 3 Special Instructions/Note: chlorinated	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:		Method of Shipment: 400 8809 4033 7863 Date/Time: 3/23 10:00 Company: SEAP	
Empty Kit Relinquished by:		Date:		Received by: [Signature] Date/Time: 3/23 10:00 Company: SEAP		Received by:	
Relinquished by:		Date/Time:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: UDA 0.710.5 Gel 1000		Company:	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-204772-1
SDG Number: PFAS: Moanalua Wells

Login Number: 204772

List Number: 1

Creator: Gross, Drake

List Source: Eurofins Pomona

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

