

ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Aiea Gulch Wells Pump 1

JOB NUMBER

380-222428-1

Eurofins Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



Authorized for release by
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Definitions/Glossary

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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: 380-222428-1

Job ID: 380-222428-1

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Job Narrative 380-222428-1

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

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

Receipt

The samples were received on 7/1/2026 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.7°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: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-1

☐ No Detections.

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-2

☐ No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-1

Date Collected: 06/29/26 10:55

Matrix: Drinking Water

Date Received: 07/01/26 09:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	111		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C6 PFDA	110		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C5 PFHxA	107		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C4 PFHpA	111		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C8 PFOA	112		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C9 PFNA	112		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C7 PFUnA	110		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C2 PFDoA	118		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C4 PFBA	114		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C5 PFPeA	104		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C3 PFBS	94		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C3 PFHxS	99		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C8 PFOS	105		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C2-4:2-FTS	88		50 - 200	07/01/26 16:11	07/02/26 07:27	1
13C2-6:2-FTS	82		50 - 200	07/01/26 16:11	07/02/26 07:27	1

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Client Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-1

Date Collected: 06/29/26 10:55

Matrix: Drinking Water

Date Received: 07/01/26 09:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	88		50 - 200	07/01/26 16:11	07/02/26 07:27	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		07/02/26 10:09	07/06/26 13:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 13:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	07/02/26 10:09	07/06/26 13:10	1
13C2 PFHxA	102		70 - 130	07/02/26 10:09	07/06/26 13:10	1
13C2 PFDA	108		70 - 130	07/02/26 10:09	07/06/26 13:10	1
13C3-GenX	102		70 - 130	07/02/26 10:09	07/06/26 13:10	1

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-2

Date Collected: 06/29/26 10:55

Matrix: Water

Date Received: 07/01/26 09:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1

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Client Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-2

Date Collected: 06/29/26 10:55

Matrix: Water

Date Received: 07/01/26 09:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/01/26 16:11	07/02/26 07:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	111		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C6 PFDA	111		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C5 PFHxA	108		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C4 PFHpA	113		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C8 PFOA	114		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C9 PFNA	111		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C7 PFUnA	111		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C2 PFDoA	114		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C4 PFBA	114		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C5 PFPeA	104		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C3 PFBS	101		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C3 PFHxS	100		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C8 PFOS	108		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C2-4:2-FTS	88		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C2-6:2-FTS	86		50 - 200	07/01/26 16:11	07/02/26 07:55	1
13C2-8:2-FTS	90		50 - 200	07/01/26 16:11	07/02/26 07:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-2

Date Collected: 06/29/26 10:55

Matrix: Water

Date Received: 07/01/26 09:40

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-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/02/26 10:09	07/06/26 14:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			07/02/26 10:09	07/06/26 14:06	1
13C2 PFHxA	99		70 - 130			07/02/26 10:09	07/06/26 14:06	1
13C2 PFDA	103		70 - 130			07/02/26 10:09	07/06/26 14:06	1
13C3-GenX	101		70 - 130			07/02/26 10:09	07/06/26 14:06	1

Action Limit Summary

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<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: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-2

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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)
380-222428-1	AIEA GULCH WELLS PUMP 1 (	109	102	108	102
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	101	104	103	104
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	108	104	101	103
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)
380-222428-2	FB: AIEA GULCH WELLS PUMF	103	99	103	101
LCS 380-237516/21-A	Lab Control Sample	104	103	101	94
MBL 380-237516/19-A	Method Blank	119	108	111	106
MRL 380-237516/20-A	Lab Control Sample	110	106	103	96
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: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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)
380-222428-1	AIEA GULCH WELLS PUMP 1 (	111	110	107	111	112	112	110	118
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	108	107	100	104	106	104	104	110
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	121	115	113	113	117	114	113	118

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)
380-222428-1	AIEA GULCH WELLS PUMP 1 (	114	104	94	99	105	88	82	88
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	107	100	96	94	103	83	80	85
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	116	111	105	101	108	90	87	91

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)
380-222428-2	FB: AIEA GULCH WELLS PUMI	111	111	108	113	114	111	111	114
LCS 380-237361/22-A	Lab Control Sample	124	123	117	119	124	116	123	132
MBL 380-237361/20-A	Method Blank	112	112	111	116	115	112	107	118
MRL 380-237361/21-A	Lab Control Sample	115	116	117	118	121	118	116	123

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)
380-222428-2	FB: AIEA GULCH WELLS PUMI	114	104	101	100	108	88	86	90
LCS 380-237361/22-A	Lab Control Sample	117	108	107	107	114	90	89	97
MBL 380-237361/20-A	Method Blank	113	105	104	106	111	95	88	96
MRL 380-237361/21-A	Lab Control Sample	120	116	109	113	118	103	102	97

Surrogate Legend

HFPODA = 13C3 HFPO-DA

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Isotope Dilution Summary

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MBL 380-237361/20-A

Matrix: Water

Analysis Batch: 237465

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 237361

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.37		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		07/01/26 16:11	07/02/26 06:57	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	112		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C6 PFDA	112		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C5 PFHxA	111		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C4 PFHpA	116		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C8 PFOA	115		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C9 PFNA	112		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C7 PFUnA	107		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C2 PFDoA	118		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C4 PFBA	113		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C5 PFPeA	105		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C3 PFBS	104		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C3 PFHxS	106		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C8 PFOS	111		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C2-4:2-FTS	95		50 - 200	07/01/26 16:11	07/02/26 06:57	1
13C2-6:2-FTS	88		50 - 200	07/01/26 16:11	07/02/26 06:57	1

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MBL 380-237361/20-A
Matrix: Water
Analysis Batch: 237465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237361

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	96		50 - 200	07/01/26 16:11	07/02/26 06:57	1

Lab Sample ID: LCS 380-237361/22-A
Matrix: Water
Analysis Batch: 237465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	118	109		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	118	102		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	118	111		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	118	106		ng/L		89	70 - 130
Perfluorobutanesulfonic acid (PFBS)	118	110		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	118	106		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	118	108		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	118	108		ng/L		91	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	118	113		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	118	108		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	118	115		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	118	110		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	118	103		ng/L		87	70 - 130
Perfluoroundecanoic acid (PFUnA)	118	108		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	118	107		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	118	109		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	118	107		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	118	116		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	118	101		ng/L		85	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	118	111		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	118	110		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	118	112		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	118	110		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	118	108		ng/L		92	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	118	113		ng/L		96	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	124		50 - 200
13C6 PFDA	123		50 - 200
13C5 PFHxA	117		50 - 200

Eurofins Pomona

QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: LCS 380-237361/22-A

Matrix: Water

Analysis Batch: 237465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237361

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C4 PFHpA	119		50 - 200
13C8 PFOA	124		50 - 200
13C9 PFNA	116		50 - 200
13C7 PFUnA	123		50 - 200
13C2 PFDoA	132		50 - 200
13C4 PFBA	117		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	114		50 - 200
13C2-4:2-FTS	90		50 - 200
13C2-6:2-FTS	89		50 - 200
13C2-8:2-FTS	97		50 - 200

Lab Sample ID: MRL 380-237361/21-A

Matrix: Water

Analysis Batch: 237465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237361

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	2.00	J	ng/L		102	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	1.86	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.97	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	2.03	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.01	J	ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.12	J	ng/L		108	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.02	J	ng/L		102	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.10	J	ng/L		107	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	1.94	J	ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.12	J	ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	1.99	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.03	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.17	J	ng/L		110	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.20	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.13	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.04	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.35	J	ng/L		119	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	1.96	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfoni acid (PFEEESA)	1.97	2.01	J	ng/L		102	50 - 150

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MRL 380-237361/21-A

Matrix: Water

Analysis Batch: 237465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237361

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	2.07	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	2.06	J	ng/L		105	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.09	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	2.01	J	ng/L		102	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	2.16	J	ng/L		110	50 - 150
Isotope Dilution	MRL %Recovery	MRL Qualifier	Limits				
13C3 HFPO-DA	115		50 - 200				
13C6 PFDA	116		50 - 200				
13C5 PFHxA	117		50 - 200				
13C4 PFHpA	118		50 - 200				
13C8 PFOA	121		50 - 200				
13C9 PFNA	118		50 - 200				
13C7 PFUnA	116		50 - 200				
13C2 PFDoA	123		50 - 200				
13C4 PFBA	120		50 - 200				
13C5 PFPeA	116		50 - 200				
13C3 PFBS	109		50 - 200				
13C3 PFHxS	113		50 - 200				
13C8 PFOS	118		50 - 200				
13C2-4:2-FTS	103		50 - 200				
13C2-6:2-FTS	102		50 - 200				
13C2-8:2-FTS	97		50 - 200				

Lab Sample ID: 380-222428-1 MS

Matrix: Drinking Water

Analysis Batch: 237465

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Prep Type: Total/NA

Prep Batch: 237361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		118	105		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	104		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	115		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	109		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	111		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		118	109		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		118	112		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		118	112		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	118		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		118	111		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		118	110		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		118	108		ng/L		91	70 - 130

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-222428-1 MS

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 237465

Prep Batch: 237361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	<2.0		118	108		ng/L		91	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		118	112		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		118	110		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	112		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	110		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	113		ng/L		95	70 - 130
Nonafluoro-3,6-dioxahheptanoic acid (NFDHA)	<2.0		118	107		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		118	114		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	112		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	109		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		118	110		ng/L		92	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	108		ng/L		91	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	115		ng/L		98	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C3 HFPO-DA	108		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	104		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	96		50 - 200
13C3 PFHxS	94		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	83		50 - 200
13C2-6:2-FTS	80		50 - 200
13C2-8:2-FTS	85		50 - 200

Lab Sample ID: 380-222428-1 MSD

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 237465

Prep Batch: 237361

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		118	106		ng/L		89	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	105		ng/L		89	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	117		ng/L		99	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-222428-1 MSD

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Matrix: Drinking Water

Prep Type: Total/NA

Analysis Batch: 237465

Prep Batch: 237361

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		118	110		ng/L		93	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	113		ng/L		96	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		118	108		ng/L		91	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		118	110		ng/L		93	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	113		ng/L		95	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	117		ng/L		99	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		118	109		ng/L		92	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		118	115		ng/L		97	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		118	110		ng/L		93	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		118	107		ng/L		90	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	110		ng/L		93	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		118	113		ng/L		96	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	113		ng/L		95	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	114		ng/L		97	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	113		ng/L		95	70 - 130	0	30
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		118	115		ng/L		97	70 - 130	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		118	113		ng/L		96	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	114		ng/L		96	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	108		ng/L		91	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		118	112		ng/L		94	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	112		ng/L		95	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	120		ng/L		101	70 - 130	4	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	121		50 - 200
13C6 PFDA	115		50 - 200
13C5 PFHxA	113		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	117		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	113		50 - 200
13C2 PFDoA	118		50 - 200
13C4 PFBA	116		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	90		50 - 200
13C2-6:2-FTS	87		50 - 200
13C2-8:2-FTS	91		50 - 200

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MBL 380-237516/19-A

Matrix: Water

Analysis Batch: 237825

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 237516

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
Perfluorotridecanoic acid (PFTTrDA)	<0.35		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
9-Chlorohexadecafluoro-3-oxanonane-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		07/02/26 10:09	07/06/26 12:40	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	119		70 - 130	07/02/26 10:09	07/06/26 12:40	1
13C2 PFHxA	108		70 - 130	07/02/26 10:09	07/06/26 12:40	1
13C2 PFDA	111		70 - 130	07/02/26 10:09	07/06/26 12:40	1
13C3-GenX	106		70 - 130	07/02/26 10:09	07/06/26 12:40	1

Lab Sample ID: LCS 380-237516/21-A

Matrix: Water

Analysis Batch: 237825

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	49.2	41.9		ng/L		85	70 - 130
Perfluorooctanesulfonic acid (PFOS)	49.2	46.7		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	49.2	47.3		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	49.2	48.5		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	49.2	46.5		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	49.2	45.6		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	49.2	48.5		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	49.2	48.6		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	49.2	45.6		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	49.2	48.1		ng/L		98	70 - 130

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QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: LCS 380-237516/21-A

Matrix: Water

Analysis Batch: 237825

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237516

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid (PFBS)	49.2	50.0		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	49.2	45.9		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	49.2	50.2		ng/L		102	70 - 130
Perfluorotetradecanoic acid (PFTA)	49.2	45.6		ng/L		93	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	49.2	49.8		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.2	47.6		ng/L		97	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.2	46.4		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.2	41.4		ng/L		84	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	94		70 - 130

Lab Sample ID: MRL 380-237516/20-A

Matrix: Water

Analysis Batch: 237825

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237516

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.82	J	ng/L		93	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.07	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	1.91	J	ng/L		97	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.97	1.92	J	ng/L		97	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.97	1.95	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	1.88	J	ng/L		95	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	1.99	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	1.86	J	ng/L		95	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.17	J	ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	2.26	J	ng/L		115	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	1.95	J	ng/L		99	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.13	J	ng/L		108	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.97	1.92	J	ng/L		98	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	1.97	2.12	J	ng/L		108	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	2.04	J	ng/L		104	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MRL 380-237516/20-A

Matrix: Water

Analysis Batch: 237825

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 237516

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.91	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.75	J	ng/L		89	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
d5-NEtFOSAA	110		70 - 130				
13C2 PFHxA	106		70 - 130				
13C2 PFDA	103		70 - 130				
13C3-GenX	96		70 - 130				

Lab Sample ID: 380-222428-1 MS

Matrix: Drinking Water

Analysis Batch: 237825

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Prep Type: Total/NA

Prep Batch: 237516

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		24.7	19.3		ng/L		78	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.7	20.7		ng/L		84	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.7	20.8		ng/L		84	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.7	20.0		ng/L		81	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.7	20.5		ng/L		83	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		24.7	21.4		ng/L		84	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		24.7	21.4		ng/L		87	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		24.7	20.3		ng/L		82	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		24.7	20.8		ng/L		84	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.7	21.3		ng/L		84	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.7	21.1		ng/L		84	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		24.7	22.1		ng/L		90	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		24.7	22.3		ng/L		90	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		24.7	20.3		ng/L		82	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.7	23.4		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.7	19.7		ng/L		80	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.7	19.9		ng/L		81	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.7	20.0		ng/L		81	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-222428-1 MS

Matrix: Drinking Water

Analysis Batch: 237825

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Prep Type: Total/NA

Prep Batch: 237516

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
13C3-GenX	104		70 - 130

Lab Sample ID: 380-222428-1 MSD

Matrix: Drinking Water

Analysis Batch: 237825

Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)

Prep Type: Total/NA

Prep Batch: 237516

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		24.7	23.3		ng/L		94	70 - 130	18	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.7	24.7		ng/L		100	70 - 130	18	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.7	23.5		ng/L		96	70 - 130	12	30
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		24.7	25.0		ng/L		101	70 - 130	22	30
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		24.7	26.8		ng/L		109	70 - 130	27	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.7	25.2		ng/L		99	70 - 130	16	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.7	24.6		ng/L		100	70 - 130	14	30
Perfluorooctanoic acid (PFOA)	<2.0		24.7	26.0		ng/L		105	70 - 130	25	30
Perfluorodecanoic acid (PFDA)	<2.0		24.7	25.0		ng/L		102	70 - 130	19	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.7	25.3		ng/L		100	70 - 130	17	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.7	25.3		ng/L		101	70 - 130	18	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.7	25.6		ng/L		104	70 - 130	15	30
Perfluorononanoic acid (PFNA)	<2.0		24.7	26.3		ng/L		107	70 - 130	16	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.7	22.6		ng/L		92	70 - 130	11	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.7	26.5		ng/L		108	70 - 130	13	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		24.7	23.9		ng/L		97	70 - 130	19	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.7	23.7		ng/L		96	70 - 130	17	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.7	24.1		ng/L		98	70 - 130	19	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
d5-NEtFOSAA	108		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	103		70 - 130

QC Association Summary

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

LCMS

Prep Batch: 237361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222428-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	
380-222428-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	533	
MBL 380-237361/20-A	Method Blank	Total/NA	Water	533	
LCS 380-237361/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-237361/21-A	Lab Control Sample	Total/NA	Water	533	
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	

Analysis Batch: 237465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222428-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	237361
380-222428-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	533	237361
MBL 380-237361/20-A	Method Blank	Total/NA	Water	533	237361
LCS 380-237361/22-A	Lab Control Sample	Total/NA	Water	533	237361
MRL 380-237361/21-A	Lab Control Sample	Total/NA	Water	533	237361
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	237361
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	237361

Prep Batch: 237516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222428-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	
380-222428-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	537.1 DW	
MBL 380-237516/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-237516/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-237516/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 237825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222428-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA 537.1 V2	237516
380-222428-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	EPA 537.1 V2	237516
MBL 380-237516/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	237516
LCS 380-237516/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	237516
MRL 380-237516/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	237516
380-222428-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA 537.1 V2	237516
380-222428-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA 537.1 V2	237516

Lab Chronicle

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

Job ID: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

**Client Sample ID: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-1

Date Collected: 06/29/26 10:55

Matrix: Drinking Water

Date Received: 07/01/26 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			237361	N8NE	EA POM	07/01/26 16:11
Total/NA	Analysis	533		1	237465	SZ9R	EA POM	07/02/26 07:27
Total/NA	Prep	537.1 DW			237516	LM3A	EA POM	07/02/26 10:09
Total/NA	Analysis	EPA 537.1 V2		1	237825	M7ML	EA POM	07/06/26 13:10

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 1
(331-201-TP071)**

Lab Sample ID: 380-222428-2

Date Collected: 06/29/26 10:55

Matrix: Water

Date Received: 07/01/26 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			237361	N8NE	EA POM	07/01/26 16:11
Total/NA	Analysis	533		1	237465	SZ9R	EA POM	07/02/26 07:55
Total/NA	Prep	537.1 DW			237516	LM3A	EA POM	07/02/26 10:09
Total/NA	Analysis	EPA 537.1 V2		1	237825	M7ML	EA POM	07/06/26 14:06

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: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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: 380-222428-1
SDG: PFAS: Aiea Gulch Wells Pump 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-222428-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Drinking Water	06/29/26 10:55	07/01/26 09:40	Hawaii
380-222428-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Water	06/29/26 10:55	07/01/26 09:40	Hawaii

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

Chain of Custody Record



Em
Am



380-222428 COC

Client Information		Lab PM: Lopez, Maria		Carrier Tracking No(s):		COC No:							
Client Contact: Kirk Iwamoto		E-Mail: Maria.Lopez@eurofins.com		State of Origin:		Page: Page 1 of 1							
Company: City & County of Honolulu		PWSID:		Job #:									
Address: 630 South Beretania Street, Chemistry Lab		Due Date Requested:		Analysis Requested		Preservation Codes:							
City: Honolulu		TAT Requested (days):				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							
State, Zip: HI, 96843		Compliance Project: J No				M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - PH 4-5 Y - Trizma Z - other (specify)							
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023											
Email: kiwamoto@hbws.org		WO #: 3800111											
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		SSOW#: 3800111											
Site:													
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Water, Seawater, Other)		Preservation Code		Special Instructions/Note:	
Aiea Gulch Wells Pump 1 (331-201-TP071)		29-Jun-2026		1055		G		Water		G		chlorinated	
FB: Aiea Gulch Wells Pump 1 (331-201-TP071)		29-Jun-2026		1055						1 1			
Possible Hazard Identification		☐ Non-Hazard		☐ Flammable		☐ Skin Irritant		☐ Poison B		☐ Unknown		☐ Radiological	
Deliverable Requested: I, II, III, IV, Other (specify)													
Empty Kit Relinquished by		Date/Time: 3/30/2026		Date/Time: 3/30/2026		Date/Time: 3/30/2026		Date/Time: 3/30/2026		Date/Time: 3/30/2026		Date/Time: 3/30/2026	
Relinquished by		Company: HBWS		Company: HBWS		Company: HBWS		Company: HBWS		Company: HBWS		Company: HBWS	
Custody Seals Intact: ☒		Custody Seal No.		Custody Seal No.		Custody Seal No.		Custody Seal No.		Custody Seal No.		Custody Seal No.	
Cooler Temperature(s) °C and Other Remarks: (631A) 3.7-10.0 3.7 961-10207													

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-222428-1

SDG Number: PFAS: Aiea Gulch Wells Pump 1

Login Number: 222428

List Number: 1

Creator: Edrosa, Rey

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	