

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Aiea Gulch Wells Pump 2

JOB NUMBER

380-237904-1

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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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: 380-237904-1

Job ID: 380-237904-1

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Job Narrative 380-237904-1

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 9/23/2026 9:06 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 4.2°C.

PFAS

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

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Detection Summary

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-1

☐ No Detections.

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-2

☐ 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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-1

Date Collected: 09/21/26 11:45

Matrix: Drinking Water

Date Received: 09/23/26 09:06

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 (11CI-PF3OUdS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	98		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C6 PFDA	99		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C5 PFHxA	100		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C4 PFHpA	97		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C8 PFOA	97		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C9 PFNA	99		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C7 PFUnA	104		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C2 PFDoA	101		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C4 PFBA	102		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C5 PFPeA	105		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C3 PFBS	93		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C3 PFHxS	93		50 - 200	09/23/26 18:50	09/24/26 18:23	1

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Client Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-1

Date Collected: 09/21/26 11:45

Matrix: Drinking Water

Date Received: 09/23/26 09:06

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	95		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C2-4:2-FTS	95		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C2-6:2-FTS	87		50 - 200	09/23/26 18:50	09/24/26 18:23	1
13C2-8:2-FTS	88		50 - 200	09/23/26 18:50	09/24/26 18:23	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		09/24/26 12:23	09/25/26 10:20	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Perfluorotridecanoic acid (PFTDA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	86		70 - 130			09/24/26 12:23	09/25/26 10:20	1
13C2 PFHxA	101		70 - 130			09/24/26 12:23	09/25/26 10:20	1
13C2 PFDA	100		70 - 130			09/24/26 12:23	09/25/26 10:20	1
13C3-GenX	96		70 - 130			09/24/26 12:23	09/25/26 10:20	1

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-2

Date Collected: 09/21/26 11:45

Matrix: Water

Date Received: 09/23/26 09:06

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 (11CI-PF3OUdS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1

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Client Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-2

Date Collected: 09/21/26 11:45

Matrix: Water

Date Received: 09/23/26 09:06

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/23/26 18:50	09/24/26 18:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C6 PFDA	105		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C5 PFHxA	103		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C4 PFHpA	102		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C8 PFOA	102		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C9 PFNA	101		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C7 PFUnA	110		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C2 PFDoA	109		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C4 PFBA	105		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C5 PFPeA	106		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C3 PFBS	100		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C3 PFHxS	98		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C8 PFOS	103		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C2-4:2-FTS	95		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C2-6:2-FTS	86		50 - 200	09/23/26 18:50	09/24/26 18:37	1
13C2-8:2-FTS	95		50 - 200	09/23/26 18:50	09/24/26 18:37	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-2

Date Collected: 09/21/26 11:45

Matrix: Water

Date Received: 09/23/26 09:06

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		09/24/26 12:23	09/25/26 10:30	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/24/26 12:23	09/25/26 10:30	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			09/24/26 12:23	09/25/26 10:30	1
13C2 PFHxA	106		70 - 130			09/24/26 12:23	09/25/26 10:30	1
13C2 PFDA	106		70 - 130			09/24/26 12:23	09/25/26 10:30	1
13C3-GenX	103		70 - 130			09/24/26 12:23	09/25/26 10:30	1

Action Limit Summary

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-1

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 2
(331-202-TP072)**

Lab Sample ID: 380-237904-2

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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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)
380-237904-1	AIEA GULCH WELLS PUMP 2 (331	86	101	100	96
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)
380-237611-AV-1-A MS	Matrix Spike	115	111	107	106
380-237611-AW-1-A MSD	Matrix Spike Duplicate	100	105	104	105
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	102	106	106	103
LCS 380-254477/22-A	Lab Control Sample	99	100	99	102
MBL 380-254477/20-A	Method Blank	91	100	102	96
MRL 380-254477/21-A	Lab Control Sample	102	103	102	101
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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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)
380-237904-1	AIEA GULCH WELLS PUMP 2 (331	98	99	100	97	97	99	104	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-237904-1	AIEA GULCH WELLS PUMP 2 (331	102	105	93	93	95	95	87	88

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)
380-237901-E-1-A MSD	Matrix Spike Duplicate	102	106	102	103	103	102	107	113
380-237901-F-1-A MS	Matrix Spike	102	101	100	103	101	99	112	108
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	99	105	103	102	102	101	110	109
LCS 380-254337/22-A	Lab Control Sample	98	104	99	103	104	99	107	110
MBL 380-254337/20-A	Method Blank	95	99	97	103	98	98	109	106
MRL 380-254337/21-A	Lab Control Sample	98	102	98	104	100	98	107	109

		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)
380-237901-E-1-A MSD	Matrix Spike Duplicate	108	107	103	106	101	102	87	94
380-237901-F-1-A MS	Matrix Spike	107	109	105	108	102	97	94	93
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	105	106	100	98	103	95	86	95
LCS 380-254337/22-A	Lab Control Sample	102	107	107	111	110	112	96	105
MBL 380-254337/20-A	Method Blank	105	111	101	105	107	97	92	100
MRL 380-254337/21-A	Lab Control Sample	107	111	108	114	109	99	94	108

Surrogate Legend

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

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Isotope Dilution Summary

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFD_oA = 13C2 PFD_oA
- PFBA = 13C4 PFBA
- PFP_eA = 13C5 PFP_eA
- 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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MBL 380-254337/20-A

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 254337

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<0.29		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<0.30		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		09/23/26 18:50	09/24/26 13:55	1
Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C6 PFDA	99		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C5 PFHxA	97		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C4 PFHpA	103		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C8 PFOA	98		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C9 PFNA	98		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C7 PFUnA	109		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C2 PFDoA	106		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C4 PFBA	105		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C5 PFPeA	111		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C3 PFBS	101		50 - 200			09/23/26 18:50	09/24/26 13:55	1
13C3 PFHxS	105		50 - 200			09/23/26 18:50	09/24/26 13:55	1

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QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MBL 380-254337/20-A
Matrix: Water
Analysis Batch: 254504

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254337

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	107		50 - 200	09/23/26 18:50	09/24/26 13:55	1
13C2-4:2-FTS	97		50 - 200	09/23/26 18:50	09/24/26 13:55	1
13C2-6:2-FTS	92		50 - 200	09/23/26 18:50	09/24/26 13:55	1
13C2-8:2-FTS	100		50 - 200	09/23/26 18:50	09/24/26 13:55	1

Lab Sample ID: LCS 380-254337/22-A
Matrix: Water
Analysis Batch: 254504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254337

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	59.1	59.2		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	59.1	57.2		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.1	59.5		ng/L		101	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.1	57.2		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.1	58.1		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	59.1	57.6		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	59.1	58.1		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.1	58.0		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.1	55.5		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	59.1	57.2		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	59.1	60.7		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.1	56.9		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	59.1	55.1		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.1	57.3		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	55.7		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	54.6		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	54.3		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	57.3		ng/L		97	70 - 130
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	56.8		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	59.1	55.5		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	56.1		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	55.9		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	56.9		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	54.0		ng/L		91	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: LCS 380-254337/22-A

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 254337

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	59.1	55.0		ng/L		93	70 - 130
	LCS	LCS					
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	98		50 - 200				
13C6 PFDA	104		50 - 200				
13C5 PFHxA	99		50 - 200				
13C4 PFHpA	103		50 - 200				
13C8 PFOA	104		50 - 200				
13C9 PFNA	99		50 - 200				
13C7 PFUnA	107		50 - 200				
13C2 PFDoA	110		50 - 200				
13C4 PFBA	102		50 - 200				
13C5 PFPeA	107		50 - 200				
13C3 PFBS	107		50 - 200				
13C3 PFHxS	111		50 - 200				
13C8 PFOS	110		50 - 200				
13C2-4:2-FTS	112		50 - 200				
13C2-6:2-FTS	96		50 - 200				
13C2-8:2-FTS	105		50 - 200				

Lab Sample ID: MRL 380-254337/21-A

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 254337

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	2.28	J	ng/L		116	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	2.10	J	ng/L		107	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.99	J	ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.96	J	ng/L		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.92	J	ng/L		98	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.15	J	ng/L		109	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.17	J	ng/L		110	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.12	J	ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	1.90	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.14	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.28	J	ng/L		116	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.15	J	ng/L		109	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.02	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.17	J	ng/L		110	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.12	J	ng/L		108	50 - 150

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QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MRL 380-254337/21-A

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 254337

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.15	J	ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.33	J	ng/L		118	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.10	J	ng/L		107	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.10	J	ng/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	1.97	2.04	J	ng/L		103	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.91	J	ng/L		97	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.92	J	ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.02	J	ng/L		102	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.90	J	ng/L		97	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.85	J	ng/L		94	50 - 150

Isotope Dilution	%Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	98		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	98		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	99		50 - 200
13C2-6:2-FTS	94		50 - 200
13C2-8:2-FTS	108		50 - 200

Lab Sample ID: 380-237901-E-1-A MSD

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 254337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.3	60.6		ng/L		102	70 - 130	5	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		59.3	58.5		ng/L		99	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.3	59.7		ng/L		101	70 - 130	4	30

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QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-237901-E-1-A MSD

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 254337

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide	<2.0		59.3	57.2		ng/L		96	70 - 130	2	30
Dimer Acid (HFPO-DA/GenX)											
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.3	58.0		ng/L		98	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		59.3	58.3		ng/L		98	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		59.3	57.0		ng/L		96	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		59.3	59.4		ng/L		100	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.3	56.4		ng/L		94	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	<2.0		59.3	58.3		ng/L		97	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		59.3	60.2		ng/L		102	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.3	59.8		ng/L		101	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		59.3	56.7		ng/L		96	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.3	57.2		ng/L		96	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		59.3	57.4		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.3	60.1		ng/L		101	70 - 130	0	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.3	58.3		ng/L		98	70 - 130	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.3	67.7		ng/L		114	70 - 130	12	30
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		59.3	56.7		ng/L		96	70 - 130	0	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		59.3	59.9		ng/L		101	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.3	59.0		ng/L		99	70 - 130	9	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.3	59.1		ng/L		100	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	<2.0		59.3	60.3		ng/L		100	70 - 130	6	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.3	58.0		ng/L		98	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.3	54.7		ng/L		92	70 - 130	6	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	113		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	101		50 - 200

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QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-237901-E-1-A MSD

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 254337

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	87		50 - 200
13C2-8:2-FTS	94		50 - 200

Lab Sample ID: 380-237901-F-1-A MS

Matrix: Water

Analysis Batch: 254504

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 254337

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.1	57.7		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.1	56.7		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.1	57.4		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.1	56.2		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.1	56.1		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		59.1	58.4		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		59.1	57.7		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		59.1	57.0		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.1	53.5		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		59.1	54.9		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		59.1	60.4		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.1	59.0		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		59.1	55.6		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		59.1	55.8		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		59.1	56.3		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.1	59.8		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.1	63.1		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.1	60.1		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.1	56.8		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		59.1	58.1		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.1	53.8		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.1	55.5		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		59.1	56.5		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.1	55.3		ng/L		94	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.1	51.4		ng/L		87	70 - 130

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QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	100		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	101		50 - 200
13C9 PFNA	99		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	94		50 - 200
13C2-8:2-FTS	93		50 - 200

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

Lab Sample ID: MBL 380-254477/20-A
Matrix: Water
Analysis Batch: 254717

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254477

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Perfluorotridecanoic acid (PFTTrDA)	<0.35		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.29		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/24/26 12:23	09/25/26 07:47	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	91		70 - 130			09/24/26 12:23	09/25/26 07:47	1
13C2 PFHxA	100		70 - 130			09/24/26 12:23	09/25/26 07:47	1
13C2 PFDA	102		70 - 130			09/24/26 12:23	09/25/26 07:47	1

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QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MBL 380-254477/20-A

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 254477

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	96		70 - 130	09/24/26 12:23	09/25/26 07:47	1

Lab Sample ID: LCS 380-254477/22-A

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 254477

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	49.0	49.0		ng/L		100	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	49.0	49.2		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	49.0	51.9		ng/L		106	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	49.0	55.3		ng/L		113	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	49.0	51.6		ng/L		105	70 - 130
Perfluorohexanoic acid (PFHxA)	49.0	51.3		ng/L		105	70 - 130
Perfluorododecanoic acid (PFDoA)	49.0	50.0		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	49.0	51.5		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	49.0	48.8		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	49.0	51.0		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	49.0	49.4		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	49.0	51.4		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	49.0	51.2		ng/L		104	70 - 130
Perfluorotetradecanoic acid (PFTA)	49.0	39.1		ng/L		80	70 - 130
Perfluorotridecanoic acid (PFTrDA)	49.0	51.0		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.0	49.2		ng/L		100	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.0	50.4		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.0	50.0		ng/L		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	99		70 - 130
13C3-GenX	102		70 - 130

QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MRL 380-254477/21-A

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 254477

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	1.96	1.95	J	ng/L		100	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	1.96	1.97	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.00	J	ng/L		102	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	2.05	J	ng/L		104	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.94	J	ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	1.98	J	ng/L		101	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	1.94	J	ng/L		99	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	1.86	J	ng/L		95	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	1.92	J	ng/L		98	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	1.90	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	2.00	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.00	J	ng/L		102	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.62	J	ng/L		82	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	1.93	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	1.73	J	ng/L		88	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	1.82	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	1.92	J	ng/L		98	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	102		70 - 130
13C3-GenX	101		70 - 130

Lab Sample ID: 380-237611-AV-1-A MS

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 254477

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		24.6	25.4		ng/L		104	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	29.3		ng/L		119	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	26.3		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	27.5		ng/L		112	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-237611-AV-1-A MS

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 254477

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits		
	Result	Qualifier	Added	Result	Qualifier			%Rec			
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		24.6	28.7		ng/L		117	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	26.4		ng/L		108	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	26.5		ng/L		108	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		24.6	27.8		ng/L		113	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		24.6	25.8		ng/L		105	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	28.9		ng/L		118	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	27.7		ng/L		113	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	26.4		ng/L		108	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		24.6	27.3		ng/L		111	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	22.9		ng/L		93	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	27.4		ng/L		112	70 - 130		
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	27.6		ng/L		112	70 - 130		
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	27.0		ng/L		110	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	26.6		ng/L		108	70 - 130		
								</			

Lab Sample ID: 380-237611-AW-1-A MSD

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 254477

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		24.6	25.0		ng/L		102	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	25.3		ng/L		103	70 - 130	15	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	25.3		ng/L		103	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	26.2		ng/L		107	70 - 130	5	30
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<2.0		24.6	25.7		ng/L		105	70 - 130	11	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	25.3		ng/L		103	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	25.1		ng/L		102	70 - 130	6	30
Perfluorooctanoic acid (PFOA)	<2.0		24.6	25.9		ng/L		105	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	25.7		ng/L		105	70 - 130	1	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-237611-AW-1-A MSD

Matrix: Water

Analysis Batch: 254717

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 254477

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	26.4		ng/L		107	70 - 130	9	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	27.6		ng/L		112	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	26.4		ng/L		108	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	25.5		ng/L		104	70 - 130	7	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	20.9		ng/L		85	70 - 130	9	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	27.2		ng/L		111	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.4		ng/L		104	70 - 130	8	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	25.9		ng/L		105	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	25.7		ng/L		105	70 - 130	4	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	100		70 - 130								
13C2 PFHxA	105		70 - 130								
13C2 PFDA	104		70 - 130								
13C3-GenX	105		70 - 130								

QC Association Summary

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

LCMS

Prep Batch: 254337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-237904-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	533	
MBL 380-254337/20-A	Method Blank	Total/NA	Water	533	
LCS 380-254337/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-254337/21-A	Lab Control Sample	Total/NA	Water	533	
380-237901-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	
380-237901-F-1-A MS	Matrix Spike	Total/NA	Water	533	

Prep Batch: 254477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-237904-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	537.1 DW	
MBL 380-254477/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-254477/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-254477/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-237611-AV-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-237611-AW-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 254504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-237904-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	254337
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	533	254337
MBL 380-254337/20-A	Method Blank	Total/NA	Water	533	254337
LCS 380-254337/22-A	Lab Control Sample	Total/NA	Water	533	254337
MRL 380-254337/21-A	Lab Control Sample	Total/NA	Water	533	254337
380-237901-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	254337
380-237901-F-1-A MS	Matrix Spike	Total/NA	Water	533	254337

Analysis Batch: 254717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-237904-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA 537.1 V2	254477
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	EPA 537.1 V2	254477
MBL 380-254477/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	254477
LCS 380-254477/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	254477
MRL 380-254477/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	254477
380-237611-AV-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	254477
380-237611-AW-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	254477

Lab Chronicle

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-1

Date Collected: 09/21/26 11:45

Matrix: Drinking Water

Date Received: 09/23/26 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			254337	E2HD	EA POM	09/23/26 18:50
Total/NA	Analysis	533		1	254504	UKDT	EA POM	09/24/26 18:23
Total/NA	Prep	537.1 DW			254477	LM3A	EA POM	09/24/26 12:23
Total/NA	Analysis	EPA 537.1 V2		1	254717	UKDT	EA POM	09/25/26 10:20

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-202-TP072)**

Lab Sample ID: 380-237904-2

Date Collected: 09/21/26 11:45

Matrix: Water

Date Received: 09/23/26 09:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			254337	E2HD	EA POM	09/23/26 18:50
Total/NA	Analysis	533		1	254504	UKDT	EA POM	09/24/26 18:37
Total/NA	Prep	537.1 DW			254477	LM3A	EA POM	09/24/26 12:23
Total/NA	Analysis	EPA 537.1 V2		1	254717	UKDT	EA POM	09/25/26 10:30

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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Laboratory: Eurofins Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-27

- 1
- 2
- 3
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Method Summary

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

Job ID: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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: 380-237904-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-237904-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	09/21/26 11:45	09/23/26 09:06	Hawaii
380-237904-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	09/21/26 11:45	09/23/26 09:06	Hawaii

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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
Am



Client Information		Sampler bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):		COC No:
Client Contact: kirk iwamoto		Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofins.com	State of Origin:		Page: Page 1 of 1
Company: City & County of Honolulu		PWSID:		Job #:		380-237904 COC
Address: 630 South Beretania Street; Chemistry Lab		Due Date Requested:		Analysis Requested		
City: Honolulu		TAT Requested (days):				
State, Zip: HI, 96843		Compliance Project: ☐ No				
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023				
Email: kiwamoto@hbws.org		WO #:				
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Project #: 38001111				
Site:		SSOW#:				
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Swill, Organic, etc.)	Field Filled Sample (Yes or No)
Aiea Gulch Wells Pump 2 (331-202-TP072)		21-Sep-2026	1145	G	Water	
FB: Aiea Gulch Wells Pump 2 (331-202-TP072)		21-Sep-2026	1145			
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
Deliverable Requested: I, II, III, IV, Other (specify)				☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months		
Empty Kit Relinquished by:		Date:		Method of Shipment: FED Ex		
Relinquished by:		Date/Time: 22-Sep-2026 1400		Received by: HBWS		
Relinquished by:		Date/Time:		Received by:		
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooling Temperature(s) °C and Other Remarks: (FSA) 4.4 - 0.2 = 4.2 - GEN-PROFE		

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-237904-1

SDG Number: PFAS: Aiea Gulch Wells Pump 2

Login Number: 237904

List Number: 1

Creator: Tran, Kristine

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	