

ANALYTICAL REPORT

PREPARED FOR

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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Aiea Gulch Wells Pump 2
RUSH Weekly Red Hill

JOB NUMBER

380-239007-1

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: 380-239007-1
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: 380-239007-1

Job ID: 380-239007-1

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Job Narrative 380-239007-1

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 9/30/2026 9:21 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.3°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: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Client Sample ID: AIEA GULCH WELLS PUMP 2
(331-202-TP072)
PWSID Number: HI0000331

Lab Sample ID: 380-239007-1

☐ No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-201-TP072)

Lab Sample ID: 380-239007-2

☐ 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: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-239007-1

Date Collected: 09/28/26 11:12

Matrix: Drinking Water

Date Received: 09/30/26 09:21

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	109		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C6 PFDA	113		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C5 PFHxA	108		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C4 PFHpA	112		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C8 PFOA	113		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C9 PFNA	113		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C7 PFUnA	114		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C2 PFDoA	109		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C4 PFBA	108		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C5 PFPeA	107		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C3 PFBS	103		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C3 PFHxS	108		50 - 200	09/30/26 18:40	10/02/26 19:40	1

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Client Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-239007-1

Date Collected: 09/28/26 11:12

Matrix: Drinking Water

Date Received: 09/30/26 09:21

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	109		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C2-4:2-FTS	103		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C2-6:2-FTS	99		50 - 200	09/30/26 18:40	10/02/26 19:40	1
13C2-8:2-FTS	106		50 - 200	09/30/26 18:40	10/02/26 19:40	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		10/01/26 03:18	10/02/26 04:45	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130			10/01/26 03:18	10/02/26 04:45	1
13C2 PFHxA	114		70 - 130			10/01/26 03:18	10/02/26 04:45	1
13C2 PFDA	112		70 - 130			10/01/26 03:18	10/02/26 04:45	1
13C3-GenX	107		70 - 130			10/01/26 03:18	10/02/26 04:45	1

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-201-TP072)**

Lab Sample ID: 380-239007-2

Date Collected: 09/28/26 11:12

Matrix: Water

Date Received: 09/30/26 09:21

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		09/30/26 18:40	10/02/26 19:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1

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Client Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-201-TP072)

Lab Sample ID: 380-239007-2

Date Collected: 09/28/26 11:12

Matrix: Water

Date Received: 09/30/26 09:21

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		09/30/26 18:40	10/02/26 19:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/30/26 18:40	10/02/26 19:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C6 PFDA	111		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C5 PFHxA	106		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C4 PFHpA	114		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C8 PFOA	113		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C9 PFNA	113		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C7 PFUnA	113		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C2 PFDoA	110		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C4 PFBA	109		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C5 PFPeA	107		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C3 PFBS	106		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C3 PFHxS	112		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C8 PFOS	109		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C2-4:2-FTS	102		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C2-6:2-FTS	102		50 - 200	09/30/26 18:40	10/02/26 19:54	1
13C2-8:2-FTS	115		50 - 200	09/30/26 18:40	10/02/26 19:54	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-201-TP072)**

Lab Sample ID: 380-239007-2

Date Collected: 09/28/26 11:12

Matrix: Water

Date Received: 09/30/26 09:21

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		10/01/26 03:18	10/02/26 04:55	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		10/01/26 03:18	10/02/26 04:55	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		70 - 130			10/01/26 03:18	10/02/26 04:55	1
13C2 PFHxA	110		70 - 130			10/01/26 03:18	10/02/26 04:55	1
13C2 PFDA	104		70 - 130			10/01/26 03:18	10/02/26 04:55	1
13C3-GenX	105		70 - 130			10/01/26 03:18	10/02/26 04:55	1

Action Limit Summary

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-239007-1

(331-202-TP072)

PWSID Number: HI0000331

Compliance Check

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

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

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-239007-2

(331-201-TP072)

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-239007-1
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)
380-239007-1	AIEA GULCH WELLS PUMP 2 (331	101	114	112	107
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)
380-238994-B-1-A MS	Matrix Spike	106	104	106	105
380-238994-C-1-A MSD	Matrix Spike Duplicate	107	114	118	108
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	98	110	104	105
LCS 380-255751/22-A	Lab Control Sample	94	97	99	88
MBL 380-255751/20-A	Method Blank	90	99	107	85
MRL 380-255751/21-A	Lab Control Sample	90	93	103	80
Surrogate Legend					
d5NEFOS = d5-NEtFOSAA					
PFHxA = 13C2 PFHxA					
PFDA = 13C2 PFDA					
GenX = 13C3-GenX					

Isotope Dilution Summary

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

Job ID: 380-239007-1
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)
380-239007-1	AIEA GULCH WELLS PUMP 2 (331	109	113	108	112	113	113	114	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)
380-239007-1	AIEA GULCH WELLS PUMP 2 (331	108	107	103	108	109	103	99	106

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)
380-238954-B-1-A MSD	Matrix Spike Duplicate	112	112	114	115	114	111	119	116
380-238954-C-1-A MS	Matrix Spike	109	110	109	108	108	108	114	112
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	107	111	106	114	113	113	113	110
LCS 380-255688/22-A	Lab Control Sample	112	115	111	111	111	112	115	115
MBL 380-255688/20-A	Method Blank	103	101	103	106	110	107	106	105
MRL 380-255688/21-A	Lab Control Sample	105	111	110	110	116	112	110	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)
380-238954-B-1-A MSD	Matrix Spike Duplicate	110	102	104	106	104	106	110	109
380-238954-C-1-A MS	Matrix Spike	110	103	106	105	108	104	107	106
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	109	107	106	112	109	102	102	115
LCS 380-255688/22-A	Lab Control Sample	108	110	109	109	109	108	117	113
MBL 380-255688/20-A	Method Blank	107	109	102	103	105	107	114	103
MRL 380-255688/21-A	Lab Control Sample	108	111	104	104	104	103	110	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: 380-239007-1
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: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MBL 380-255688/20-A

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 255688

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		09/30/26 18:40	10/02/26 14:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<0.29		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.37		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.24		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		09/30/26 18:40	10/02/26 14:17	1
Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	103		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C6 PFDA	101		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C5 PFHxA	103		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C4 PFHpA	106		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C8 PFOA	110		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C9 PFNA	107		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C7 PFUnA	106		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C2 PFDoA	105		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C4 PFBA	107		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C5 PFPeA	109		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C3 PFBS	102		50 - 200			09/30/26 18:40	10/02/26 14:17	1
13C3 PFHxS	103		50 - 200			09/30/26 18:40	10/02/26 14:17	1

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QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MBL 380-255688/20-A
Matrix: Water
Analysis Batch: 256041

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 255688

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	105		50 - 200	09/30/26 18:40	10/02/26 14:17	1
13C2-4:2-FTS	107		50 - 200	09/30/26 18:40	10/02/26 14:17	1
13C2-6:2-FTS	114		50 - 200	09/30/26 18:40	10/02/26 14:17	1
13C2-8:2-FTS	103		50 - 200	09/30/26 18:40	10/02/26 14:17	1

Lab Sample ID: LCS 380-255688/22-A
Matrix: Water
Analysis Batch: 256041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 255688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	118	112		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	118	110		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	118	114		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	118	108		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	118	111		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	118	109		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	118	108		ng/L		91	70 - 130
Perfluoroheptanoic acid (PFHpA)	118	108		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	118	113		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	118	113		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	118	109		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	118	108		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	118	109		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	118	106		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	118	109		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	118	108		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	118	112		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	118	103		ng/L		87	70 - 130
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	118	109		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	118	109		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	118	104		ng/L		88	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	118	105		ng/L		88	70 - 130
Perfluoropentanoic acid (PFPeA)	118	109		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	118	110		ng/L		93	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: LCS 380-255688/22-A

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 255688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	118	115		ng/L		97	70 - 130
	LCS	LCS					
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	112		50 - 200				
13C6 PFDA	115		50 - 200				
13C5 PFHxA	111		50 - 200				
13C4 PFHpA	111		50 - 200				
13C8 PFOA	111		50 - 200				
13C9 PFNA	112		50 - 200				
13C7 PFUnA	115		50 - 200				
13C2 PFDoA	115		50 - 200				
13C4 PFBA	108		50 - 200				
13C5 PFPeA	110		50 - 200				
13C3 PFBS	109		50 - 200				
13C3 PFHxS	109		50 - 200				
13C8 PFOS	109		50 - 200				
13C2-4:2-FTS	108		50 - 200				
13C2-6:2-FTS	117		50 - 200				
13C2-8:2-FTS	113		50 - 200				

Lab Sample ID: MRL 380-255688/21-A

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 255688

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	2.30	J	ng/L		117	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	1.99	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	2.02	J	ng/L		103	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	2.01	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	2.01	J	ng/L		102	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.09	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	1.98	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.10	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.00	J	ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.06	J	ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	1.98	J	ng/L		100	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.03	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	1.98	J	ng/L		101	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.03	J	ng/L		103	50 - 150

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QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MRL 380-255688/21-A

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 255688

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	1.92	J	ng/L		98	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.09	J	ng/L		106	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	1.96	J	ng/L		100	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.17	J	ng/L		110	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	1.97	2.13	J	ng/L		108	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.98	J	ng/L		101	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	1.96	J	ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.15	J	ng/L		109	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.98	J	ng/L		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	2.03	J	ng/L		103	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	111		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	116		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	103		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	108		50 - 200

Lab Sample ID: 380-238954-B-1-A MSD

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 255688

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	113		ng/L		95	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		118	112		ng/L		94	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	108		ng/L		91	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-238954-B-1-A MSD

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 255688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide	<2.0		118	110		ng/L		93	70 - 130	0	30
Dimer Acid (HFPO-DA/GenX)											
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	115		ng/L		97	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		118	108		ng/L		92	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		118	109		ng/L		92	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	106		ng/L		89	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	111		ng/L		94	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	3.3		118	110		ng/L		90	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		118	111		ng/L		94	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		118	111		ng/L		94	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		118	104		ng/L		87	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	104		ng/L		88	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	2.5		118	111		ng/L		92	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	106		ng/L		89	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	106		ng/L		89	70 - 130	5	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	105		ng/L		89	70 - 130	5	30
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		118	107		ng/L		90	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		118	114		ng/L		96	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	107		ng/L		90	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	112		ng/L		94	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	2.2		118	117		ng/L		97	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	112		ng/L		94	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	112		ng/L		95	70 - 130	2	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	112		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	114		50 - 200
13C4 PFHpA	115		50 - 200
13C8 PFOA	114		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	119		50 - 200
13C2 PFDoA	116		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	102		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	104		50 - 200

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QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-238954-B-1-A MSD

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 255688

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C2-4:2-FTS	106		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	109		50 - 200

Lab Sample ID: 380-238954-C-1-A MS

Matrix: Water

Analysis Batch: 256041

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 255688

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		118	109		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	106		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	110		ng/L		93	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	110		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	115		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		118	112		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		118	110		ng/L		93	70 - 130
Perfluorooheptanoic acid (PFHpA)	<2.0		118	110		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	113		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	3.3		118	114		ng/L		94	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
Perfluorooctanoic acid (PFOA)	<2.0		118	107		ng/L		90	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		118	103		ng/L		87	70 - 130
Perfluorobutanoic acid (PFBA)	2.5		118	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	109		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	111		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	110		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	109		ng/L		92	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	109		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	112		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	2.2		118	115		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	107		ng/L		91	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	115		ng/L		97	70 - 130

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QC Sample Results

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

Job ID: 380-239007-1
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	109		50 - 200
13C6 PFDA	110		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	112		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	103		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	106		50 - 200

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

Lab Sample ID: MBL 380-255751/20-A
Matrix: Water
Analysis Batch: 255857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 255751

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		10/01/26 03:18	10/02/26 02:51	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Perfluorotridecanoic acid (PFTTrDA)	<0.35		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.29		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		10/01/26 03:18	10/02/26 02:51	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	90		70 - 130			10/01/26 03:18	10/02/26 02:51	1
13C2 PFHxA	99		70 - 130			10/01/26 03:18	10/02/26 02:51	1
13C2 PFDA	107		70 - 130			10/01/26 03:18	10/02/26 02:51	1

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QC Sample Results

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

Job ID: 380-239007-1
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 380-255751/20-A

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 255751

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	85		70 - 130	10/01/26 03:18	10/02/26 02:51	1

Lab Sample ID: LCS 380-255751/22-A

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 255751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	24.6	21.5		ng/L		87	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	24.6	25.7		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	24.6	25.6		ng/L		104	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	24.6	24.5		ng/L		100	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	24.6	24.4		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	24.6	24.9		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	24.6	24.4		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	24.6	25.6		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	24.6	25.7		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	24.6	25.0		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	24.6	25.6		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	24.6	24.3		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	24.6	25.9		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	24.6	18.3		ng/L		75	70 - 130
Perfluorotridecanoic acid (PFTrDA)	24.6	25.8		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	24.6	24.3		ng/L		99	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	24.6	24.5		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	24.6	22.2		ng/L		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	94		70 - 130
13C2 PFHxA	97		70 - 130
13C2 PFDA	99		70 - 130
13C3-GenX	88		70 - 130

QC Sample Results

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

Job ID: 380-239007-1
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 380-255751/21-A

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 255751

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	1.96	1.65	J	ng/L		84	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	1.96	2.13	J	ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.07	J	ng/L		106	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	1.88	J	ng/L		96	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.63	J	ng/L		83	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.93	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	2.01	J	ng/L		102	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	2.13	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	2.05	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.00	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	2.05	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	1.89	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.09	J	ng/L		107	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.72	J	ng/L		87	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	2.15	J	ng/L		109	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	1.96	J	ng/L		100	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	1.90	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	1.68	J	ng/L		86	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	90		70 - 130
13C2 PFHxA	93		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	80		70 - 130

Lab Sample ID: 380-238994-B-1-A MS

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 255751

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		24.6	24.1		ng/L		98	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	2.8		24.6	27.4		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	25.8		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	26.8		ng/L		109	70 - 130

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QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-238994-B-1-A MS

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 255751

	Sample	Sample	Spike	MS	MS			%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	26.3		ng/L		107	70 - 130	
Perfluorohexanoic acid (PFHxA)	3.2		24.6	29.2		ng/L		106	70 - 130	
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	25.3		ng/L		103	70 - 130	
Perfluorooctanoic acid (PFOA)	2.2		24.6	28.4		ng/L		107	70 - 130	
Perfluorodecanoic acid (PFDA)	<2.0		24.6	26.3		ng/L		107	70 - 130	
Perfluorohexanesulfonic acid (PFHxS)	2.9		24.6	29.1		ng/L		107	70 - 130	
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	27.1		ng/L		105	70 - 130	
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	26.7		ng/L		104	70 - 130	
Perfluorononanoic acid (PFNA)	<2.0		24.6	24.9		ng/L		101	70 - 130	
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	19.3		ng/L		79	70 - 130	
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	26.7		ng/L		109	70 - 130	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	24.9		ng/L		101	70 - 130	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.2		ng/L		98	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	24.5		ng/L		100	70 - 130	

Lab Sample ID: 380-238994-C-1-A MSD

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 255751

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	24.1		ng/L		98	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	2.8		24.6	27.7		ng/L		101	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	25.8		ng/L		105	70 - 130	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	25.7		ng/L		104	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	23.0		ng/L		93	70 - 130	13	30
Perfluorohexanoic acid (PFHxA)	3.2		24.6	29.6		ng/L		107	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	24.9		ng/L		101	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	2.2		24.6	27.5		ng/L		103	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	26.6		ng/L		108	70 - 130	1	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-238994-C-1-A MSD

Matrix: Water

Analysis Batch: 255857

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 255751

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	2.9		24.6	28.3		ng/L		103	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	26.7		ng/L		103	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	27.3		ng/L		106	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	25.5		ng/L		103	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	19.9		ng/L		81	70 - 130	3	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	26.9		ng/L		109	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	24.9		ng/L		101	70 - 130	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.8		ng/L		101	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	24.6		ng/L		100	70 - 130	0	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	107		70 - 130								
13C2 PFHxA	114		70 - 130								
13C2 PFDA	118		70 - 130								
13C3-GenX	108		70 - 130								

QC Association Summary

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

LCMS

Prep Batch: 255688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-239007-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	Total/NA	Water	533	
MBL 380-255688/20-A	Method Blank	Total/NA	Water	533	
LCS 380-255688/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-255688/21-A	Lab Control Sample	Total/NA	Water	533	
380-238954-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	
380-238954-C-1-A MS	Matrix Spike	Total/NA	Water	533	

Prep Batch: 255751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-239007-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	Total/NA	Water	537.1 DW	
MBL 380-255751/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-255751/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-255751/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-238994-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-238994-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 255857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-239007-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	EPA 537.1 V2	255751
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	Total/NA	Water	EPA 537.1 V2	255751
MBL 380-255751/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	255751
LCS 380-255751/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	255751
MRL 380-255751/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	255751
380-238994-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	255751
380-238994-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	255751

Analysis Batch: 256041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-239007-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	255688
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	Total/NA	Water	533	255688
MBL 380-255688/20-A	Method Blank	Total/NA	Water	533	255688
LCS 380-255688/22-A	Lab Control Sample	Total/NA	Water	533	255688
MRL 380-255688/21-A	Lab Control Sample	Total/NA	Water	533	255688
380-238954-B-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	255688
380-238954-C-1-A MS	Matrix Spike	Total/NA	Water	533	255688

Lab Chronicle

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

Job ID: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

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

Lab Sample ID: 380-239007-1

Date Collected: 09/28/26 11:12

Matrix: Drinking Water

Date Received: 09/30/26 09:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			255688	E2HD	EA POM	09/30/26 18:40
Total/NA	Analysis	533		1	256041	UKDT	EA POM	10/02/26 19:40
Total/NA	Prep	537.1 DW			255751	G9MN	EA POM	10/01/26 03:18
Total/NA	Analysis	EPA 537.1 V2		1	255857	UKDT	EA POM	10/02/26 04:45

**Client Sample ID: FB: AIEA GULCH WELLS PUMP 2
(331-201-TP072)**

Lab Sample ID: 380-239007-2

Date Collected: 09/28/26 11:12

Matrix: Water

Date Received: 09/30/26 09:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			255688	E2HD	EA POM	09/30/26 18:40
Total/NA	Analysis	533		1	256041	UKDT	EA POM	10/02/26 19:54
Total/NA	Prep	537.1 DW			255751	G9MN	EA POM	10/01/26 03:18
Total/NA	Analysis	EPA 537.1 V2		1	255857	UKDT	EA POM	10/02/26 04:55

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: 380-239007-1
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

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Method Summary

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

Job ID: 380-239007-1
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: 380-239007-1
SDG: PFAS: Aiea Gulch Wells Pump 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-239007-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	09/28/26 11:12	09/30/26 09:21	HI0000331
380-239007-2	FB: AIEA GULCH WELLS PUMP 2 (331-201-TP072)	Water	09/28/26 11:12	09/30/26 09:21	

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Chain of Custody Record

Client Information Client Contact: Kirk Iwamoto City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Lab PM: Lopez, Maria E-Mail: Maria.Lopez@et.eurofinsus.com PWSID:		Carrier Tracking No(s): State of Origin: Page 1 of 1 Job #:		COC No: 380-239007 COC	
Analysis Requested Due Date Requested: TAT Requested (days): Compliance Project: ☐ No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:				Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anichlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Sample Identification Aiea Gulch Wells Pump 2 (331-202-TP072)				Special Instructions/Note: chlorinated			
Sample Date: 28-Sep-2026 Sample Time: 1112 Sample Type (C=Comp, G=grab): G Matrix (Inorganic, Organic, Other): Water				533 - All Analytes 637.1 DW, PREC - 637.1 Full List 656.2 PREC - (MOD) 656plus PLUS TICs 8015B PRO_LL_C8 - HNL Ranges: C10-C24/C24-C36/C8- 8015B GRO_LL - (MOD) GRO SUBCONTRACT - 625 PAH Physile LL (EAL) + TICs			
FB: Aiea Gulch Wells Pump 2 (331-202-TP072)				1 1			
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months			
Empty Kit Relinquished by:				Method of Shipment: Fed X			
Date/Time: 28-Sep-2026 14:00 Company: HBWS				Received by: Maria Lopez Date/Time: 9/30/26 9:21 Company: KRAL			
Date/Time: Company:				Received by: Date/Time: Company:			
Date/Time: Company:				Received by: Date/Time: Company:			
Custody Seal No.: Delta Yes Delta No				Cooler Temperature(s) °C and Other Remarks: (331-202-23 981-1010)			

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-239007-1

SDG Number: PFAS: Aiea Gulch Wells Pump 2

Login Number: 239007

List Source: Eurofins Pomona

List Number: 1

Creator: Abaya, Ashton

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