

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
PFAS: Aiea Gulch Wells Pump 1
RUSH Weekly Red Hill

JOB NUMBER

380-235719-1

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
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1145

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Definitions/Glossary

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-235719-1

Job ID: 380-235719-1

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Job Narrative 380-235719-1

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 9/10/2026 10:05 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 1.7°C.

PFAS

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

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Detection Summary

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-1

☐ No Detections.

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

Lab Sample ID: 380-235719-2

☐ 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: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-1

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C6 PFDA	103		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C5 PFHxA	109		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C4 PFHpA	102		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C8 PFOA	105		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C9 PFNA	104		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C7 PFUnA	99		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C2 PFDoA	94		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C4 PFBA	105		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C5 PFPeA	107		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C3 PFBS	102		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C3 PFHxS	100		50 - 200	09/11/26 14:18	09/14/26 16:39	1

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Client Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-1

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	103		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C2-4:2-FTS	104		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C2-6:2-FTS	102		50 - 200	09/11/26 14:18	09/14/26 16:39	1
13C2-8:2-FTS	105		50 - 200	09/11/26 14:18	09/14/26 16:39	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		09/11/26 20:20	09/14/26 15:52	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	96		70 - 130	09/11/26 20:20	09/14/26 15:52	1
13C2 PFHxA	102		70 - 130	09/11/26 20:20	09/14/26 15:52	1
13C2 PFDA	95		70 - 130	09/11/26 20:20	09/14/26 15:52	1
13C3-GenX	88		70 - 130	09/11/26 20:20	09/14/26 15:52	1

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

Lab Sample ID: 380-235719-2

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1

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Client Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-2

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

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		09/11/26 14:18	09/14/26 16:52	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/11/26 14:18	09/14/26 16:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C6 PFDA	106		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C5 PFHxA	104		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C4 PFHpA	104		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C8 PFOA	103		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C9 PFNA	106		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C7 PFUnA	108		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C2 PFDoA	105		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C4 PFBA	105		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C5 PFPeA	106		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C3 PFBS	104		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C3 PFHxS	106		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C8 PFOS	108		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C2-4:2-FTS	105		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C2-6:2-FTS	106		50 - 200	09/11/26 14:18	09/14/26 16:52	1
13C2-8:2-FTS	108		50 - 200	09/11/26 14:18	09/14/26 16:52	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-2

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

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		09/11/26 20:20	09/14/26 16:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 16:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130			09/11/26 20:20	09/14/26 16:02	1
13C2 PFHxA	102		70 - 130			09/11/26 20:20	09/14/26 16:02	1
13C2 PFDA	107		70 - 130			09/11/26 20:20	09/14/26 16:02	1
13C3-GenX	86		70 - 130			09/11/26 20:20	09/14/26 16:02	1

Action Limit Summary

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-1

Compliance Check

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

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

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

Lab Sample ID: 380-235719-2

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: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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)
380-235719-1	AIEA GULCH WELLS PUMP 1 (	96	102	95	88
380-235719-2	FB: AIEA GULCH WELLS PUMF 1 (331-201-TP071)	100	102	107	86
380-235750-B-1-A MS	Matrix Spike	97	100	104	88
380-235750-C-1-A MSD	Matrix Spike Duplicate	100	108	103	92
LCS 380-252265/22-A	Lab Control Sample	93	100	105	84
MBL 380-252265/20-A	Method Blank	90	98	94	82
MRL 380-252265/21-A	Lab Control Sample	101	105	103	89
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: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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)
380-235718-E-1-A MS	Matrix Spike	78	86	90	87	86	85	92	94
380-235718-F-1-A MSD	Matrix Spike Duplicate	99	103	106	103	107	105	105	100
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	100	103	109	102	105	104	99	94
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	92	106	104	104	103	106	108	105
LCS 380-252162/22-A	Lab Control Sample	92	104	104	101	106	105	105	103
MBL 380-252162/20-A	Method Blank	88	101	105	103	105	100	101	98
MRL 380-252162/21-A	Lab Control Sample	90	104	103	103	105	107	108	106

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)
380-235718-E-1-A MS	Matrix Spike	96	96	110	102	106	115	104	103
380-235718-F-1-A MSD	Matrix Spike Duplicate	104	105	103	97	105	113	108	101
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	105	107	102	100	103	104	102	105
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	105	106	104	106	108	105	106	108
LCS 380-252162/22-A	Lab Control Sample	104	101	108	109	107	109	108	105
MBL 380-252162/20-A	Method Blank	103	109	103	106	100	106	107	105
MRL 380-252162/21-A	Lab Control Sample	102	103	105	102	102	98	105	101

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

QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MBL 380-252162/20-A

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252162

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.37		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	0.386	J	2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		09/11/26 14:18	09/14/26 11:57	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C6 PFDA	101		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C5 PFHxA	105		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C4 PFHpA	103		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C8 PFOA	105		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C9 PFNA	100		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C7 PFUnA	101		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C2 PFDoA	98		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C4 PFBA	103		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C5 PFPeA	109		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C3 PFBS	103		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C3 PFHxS	106		50 - 200	09/11/26 14:18	09/14/26 11:57	1

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MBL 380-252162/20-A

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252162

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	100		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C2-4:2-FTS	106		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C2-6:2-FTS	107		50 - 200	09/11/26 14:18	09/14/26 11:57	1
13C2-8:2-FTS	105		50 - 200	09/11/26 14:18	09/14/26 11:57	1

Lab Sample ID: LCS 380-252162/22-A

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	118	110		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	118	108		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	118	115		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	118	114		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	118	105		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	118	112		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDaA)	118	112		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	118	112		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	118	107		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	118	115		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	118	114		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	118	112		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	118	112		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	118	114		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	118	112		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	118	112		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	118	121		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	118	110		ng/L		93	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	118	111		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	118	115		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	118	111		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	118	111		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	118	111		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	118	111		ng/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: LCS 380-252162/22-A

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	118	111		ng/L		94	70 - 130
	LCS	LCS					
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	92		50 - 200				
13C6 PFDA	104		50 - 200				
13C5 PFHxA	104		50 - 200				
13C4 PFHpA	101		50 - 200				
13C8 PFOA	106		50 - 200				
13C9 PFNA	105		50 - 200				
13C7 PFUnA	105		50 - 200				
13C2 PFDoA	103		50 - 200				
13C4 PFBA	104		50 - 200				
13C5 PFPeA	101		50 - 200				
13C3 PFBS	108		50 - 200				
13C3 PFHxS	109		50 - 200				
13C8 PFOS	107		50 - 200				
13C2-4:2-FTS	109		50 - 200				
13C2-6:2-FTS	108		50 - 200				
13C2-8:2-FTS	105		50 - 200				

Lab Sample ID: MRL 380-252162/21-A

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252162

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	2.35	J	ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	1.96	2.22	J	ng/L		113	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	2.05	J	ng/L		104	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.96	2.11	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	2.11	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	2.20	J	ng/L		112	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	2.17	J	ng/L		111	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	2.25	J	ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.33	J	ng/L		119	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	2.18	J	ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.11	J	ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.96	2.26	J	ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	2.17	J	ng/L		111	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.09	J	ng/L		106	50 - 150
Perfluorobutanoic acid (PFBA)	1.96	2.10	J	ng/L		107	50 - 150

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MRL 380-252162/21-A

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252162

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.96	2.22	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.96	2.06	J	ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.96	2.31	J	ng/L		118	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.96	2.21	J	ng/L		113	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.96	2.38	J	ng/L		121	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.96	2.08	J	ng/L		106	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.96	2.08	J	ng/L		106	50 - 150
Perfluoropentanoic acid (PFPeA)	1.96	2.18	J	ng/L		111	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.96	2.15	J	ng/L		109	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.96	2.29	J	ng/L		116	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	103		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	102		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	98		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	101		50 - 200

Lab Sample ID: 380-235718-E-1-A MS

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252162

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		59.2	54.1		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.2	54.9		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.2	51.9		ng/L		88	70 - 130

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235718-E-1-A MS

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252162

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		59.2	58.2		ng/L		98	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.2	55.5		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0	*5-	59.2	58.2		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0	*5-	59.2	57.7		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		59.2	59.4		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.2		59.2	61.5		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	3.1		59.2	60.2		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	<2.0	*5-	59.2	57.5		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.9		59.2	60.0		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	2.4		59.2	60.9		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0	*5-	59.2	57.5		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		59.2	57.4		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.2	59.0		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.2	56.4		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.2	62.0		ng/L		105	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		59.2	53.9		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		59.2	64.2		ng/L		108	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.2	54.0		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.2	54.4		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	3.8		59.2	59.3		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.2	57.7		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.2	62.0		ng/L		104	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	78		50 - 200
13C6 PFDA	86		50 - 200
13C5 PFHxA	90		50 - 200
13C4 PFHpA	87		50 - 200
13C8 PFOA	86		50 - 200
13C9 PFNA	85		50 - 200
13C7 PFUnA	92		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	96		50 - 200
13C5 PFPeA	96		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	102		50 - 200
13C8 PFOS	106		50 - 200

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235718-E-1-A MS

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252162

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	115		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	103		50 - 200

Lab Sample ID: 380-235718-F-1-A MSD

Matrix: Water

Analysis Batch: 252435

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 252162

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		59.2	53.8		ng/L		91	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		59.2	55.6		ng/L		94	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.2	56.7		ng/L		96	70 - 130	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.2	58.0		ng/L		98	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.2	58.6		ng/L		97	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0	*5-	59.2	59.0		ng/L		99	70 - 130	1	30
Perfluorododecanoic acid (PFDaA)	<2.0	*5-	59.2	58.7		ng/L		99	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		59.2	60.0		ng/L		99	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	3.2		59.2	65.0		ng/L		104	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)	3.1		59.2	59.6		ng/L		95	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0	*5-	59.2	59.6		ng/L		100	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	2.9		59.2	59.3		ng/L		95	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	2.4		59.2	58.1		ng/L		94	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0	*5-	59.2	56.2		ng/L		94	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		59.2	58.2		ng/L		96	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.2	60.6		ng/L		102	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.2	56.0		ng/L		95	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.2	62.3		ng/L		105	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.2	54.5		ng/L		92	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		59.2	57.0		ng/L		95	70 - 130	12	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.2	54.6		ng/L		92	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.2	57.8		ng/L		97	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	3.8		59.2	61.4		ng/L		97	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.2	58.2		ng/L		98	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.2	63.0		ng/L		106	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	105		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	97		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	113		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	101		50 - 200

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

Lab Sample ID: MBL 380-252265/20-A
Matrix: Water
Analysis Batch: 252427

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 252265

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	90		70 - 130			09/11/26 20:20	09/14/26 14:17	1
13C2 PFHxA	98		70 - 130			09/11/26 20:20	09/14/26 14:17	1
13C2 PFDA	94		70 - 130			09/11/26 20:20	09/14/26 14:17	1

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MBL 380-252265/20-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252265

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	82		70 - 130	09/11/26 20:20	09/14/26 14:17	1

Lab Sample ID: LCS 380-252265/22-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	49.1	36.6		ng/L		74	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	49.1	47.4		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	49.1	47.0		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	49.1	45.7		ng/L		93	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	49.1	43.8		ng/L		89	70 - 130
Perfluorohexanoic acid (PFHxA)	49.1	44.4		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	49.1	48.7		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	49.1	46.9		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	49.1	45.5		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	49.1	48.4		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	49.1	48.3		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	49.1	45.2		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	49.1	49.0		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	49.1	41.4		ng/L		84	70 - 130
Perfluorotridecanoic acid (PFTrDA)	49.1	46.9		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.1	48.0		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.1	46.6		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.1	42.7		ng/L		87	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	93		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	84		70 - 130

QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: MRL 380-252265/21-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	1.96	1.46	J	ng/L		74	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	1.96	1.97	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	1.79	J	ng/L		91	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	1.78	J	ng/L		91	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.82	J	ng/L		93	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	1.79	J	ng/L		91	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	1.82	J	ng/L		93	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.10	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	1.88	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	2.00	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.69	J	ng/L		86	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	1.78	J	ng/L		90	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	1.89	J	ng/L		96	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	1.74	J	ng/L		89	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	89		70 - 130

Lab Sample ID: 380-235750-B-1-A MS

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		24.6	19.9		ng/L		81	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	24.8		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	24.1		ng/L		98	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	23.3		ng/L		95	70 - 130

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QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235750-B-1-A MS

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252265

Table 1: Data for PFAS in the 100% Recalibration									
Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		24.6	23.4		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	23.9		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	24.0		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		24.6	24.0		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		24.6	24.7		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	25.9		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	25.6		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	24.4		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		24.6	24.4		ng/L		99	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	23.2		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	24.5		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.0		ng/L		101	70 - 130
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.7		ng/L		101	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	21.7		ng/L		88	70 - 130

Lab Sample ID: 380-235750-C-1-A MSD

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 252265

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	20.5		ng/L		83	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	25.1		ng/L		102	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	25.7		ng/L		104	70 - 130	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	24.0		ng/L		98	70 - 130	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	24.5		ng/L		100	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	25.0		ng/L		99	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	24.8		ng/L		101	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		24.6	25.7		ng/L		105	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	25.1		ng/L		102	70 - 130	2	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235750-C-1-A MSD

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 252265

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	25.7		ng/L		102	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	25.3		ng/L		103	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	24.8		ng/L		99	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	26.8		ng/L		109	70 - 130	9	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	24.2		ng/L		98	70 - 130	4	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		24.6	26.3		ng/L		107	70 - 130	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.3		ng/L		103	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.9		ng/L		101	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	23.8		ng/L		97	70 - 130	9	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	100		70 - 130								
13C2 PFHxA	108		70 - 130								
13C2 PFDA	103		70 - 130								
13C3-GenX	92		70 - 130								

QC Association Summary

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

LCMS

Prep Batch: 252162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	533	
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	533	
MBL 380-252162/20-A	Method Blank	Total/NA	Water	533	
LCS 380-252162/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-252162/21-A	Lab Control Sample	Total/NA	Water	533	
380-235718-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-235718-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 252265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	537.1 DW	
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	537.1 DW	
MBL 380-252265/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-252265/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-252265/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-235750-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-235750-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 252427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	EPA 537.1 V2	252265
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	EPA 537.1 V2	252265
MBL 380-252265/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	252265
LCS 380-252265/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	252265
MRL 380-252265/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	252265
380-235750-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	252265
380-235750-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	252265

Analysis Batch: 252435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	533	252162
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TPC	Total/NA	Water	533	252162
MBL 380-252162/20-A	Method Blank	Total/NA	Water	533	252162
LCS 380-252162/22-A	Lab Control Sample	Total/NA	Water	533	252162
MRL 380-252162/21-A	Lab Control Sample	Total/NA	Water	533	252162
380-235718-E-1-A MS	Matrix Spike	Total/NA	Water	533	252162
380-235718-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	252162

Lab Chronicle

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-235719-1

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			252162	N8NE	EA POM	09/11/26 14:18
Total/NA	Analysis	533		1	252435	UKDT	EA POM	09/14/26 16:39
Total/NA	Prep	537.1 DW			252265	LM3A	EA POM	09/11/26 20:20
Total/NA	Analysis	EPA 537.1 V2		1	252427	UKDT	EA POM	09/14/26 15:52

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

Lab Sample ID: 380-235719-2

Date Collected: 09/08/26 11:10

Matrix: Water

Date Received: 09/10/26 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			252162	N8NE	EA POM	09/11/26 14:18
Total/NA	Analysis	533		1	252435	UKDT	EA POM	09/14/26 16:52
Total/NA	Prep	537.1 DW			252265	LM3A	EA POM	09/11/26 20:20
Total/NA	Analysis	EPA 537.1 V2		1	252427	UKDT	EA POM	09/14/26 16:02

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: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

Laboratory: Eurofins Pomona

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

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

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Method Summary

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA POM = Eurofins Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Sample Summary

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

Job ID: 380-235719-1
SDG: PFAS: Aiea Gulch Wells Pump 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-235719-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Water	09/08/26 11:10	09/10/26 10:05	Hawaii
380-235719-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Water	09/08/26 11:10	09/10/26 10:05	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



Environmental Testing
America

Client Information		Sampler:	Lab File:	Carrier Tracking (log):	COC No:
Client Contact:		Dr. Bailey	Lopez, Maria	State of Origin:	Page: 1 of 1
Phone:		+1 805 748 5640	E-Mail: Maria.Lopez@eurofins.com	Job #:	
Company:		PWSID:			
City & County of Honolulu		Analysis Requested			
Address:		Dean Data Requested:			
City:		TAT Requested (days):			
State, Zip:		Compliance Project: ☒ No			
Phone:		PO #:			
805-748-5640 (tel)		C20525101 exp 06/31/2023			
Fax:		MO #:			
805-748-5640 (fax)		Project #:			
Project Name:		38001111			
Site:		SSOWF:			
Sample Identification		Sample Date	Sample Time	Sample Type (C-Comp, G-Grabs, etc.)	Matrix (Inorganic, Organic, etc.)
Alca Gulch Wells Pump 1 (331-201-TP071)		8-Sep-2026	1110	G	Water
FB: Alca Gulch Wells Pump 1 (331-201-TP071)		8-Sep-2026	1110		
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/OC Requirements:			
Empty RE Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by:		Date/Time:	Company:	Received by:	
Relinquished by:		Date/Time:	Company:	Received by:	
Relinquished by:		Date/Time:	Company:	Received by:	
Custody Seals Intact: ☒ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
				380-295719 COC	

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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



Environmental Testing
America

Client Information		Sampler:	Bailley	Lab File:	Lopez, Maria	Carrier Tracking (log):	COC No:
Client Contact:		Phone:	+1 805 748 5640	E-Mail:	Maria.Lopez@eurofins.com	State of Origin:	Page: 1 of 1
Company:		Job #:					
City & County of Honolulu		Analysis Requested:	SUBCONTRACT - 626 PAH Physals LL (EAL) + TICs 6011B_ORO_LL - (MOD) GRO 6011B_DRO_LL_CS - HNL Range: C10-C24/C24-C38/C3-C18 625.1_PREG - (MOD) 625phs PLUS TICs 637.1_DW_PREG - 637.1 Full List 633 - All Analytes				
Address:		Dean Data Requested:	Total Number of Containers				
City:		TAI Requested (day):	A-HCL B-NH4 C-Zn Acetate D-NH4 Acetate E-NH4SO4 F-NH4Cl G-Arctic Acid H-Arctic Acid I-Aspartic Acid J-DI Water K-EDTA L-EDA M-Hexane N-Hexane O-Acetone P-NH4OH Q-NH4OH R-NH4OH S-H2SO4 T-TSP Distilled Water U-Acetone V-MCLA W-pH 4.4 Y-Trioxa Z-Other (specify)				
State, Zip:		Compliance Project:	Field Filled Sample (Yes or No) SUBCONTRACT - 626 PAH Physals LL (EAL) + TICs 6011B_ORO_LL - (MOD) GRO 6011B_DRO_LL_CS - HNL Range: C10-C24/C24-C38/C3-C18 625.1_PREG - (MOD) 625phs PLUS TICs 637.1_DW_PREG - 637.1 Full List 633 - All Analytes				
Phone:		MO #:	Field Filled Sample (Yes or No) SUBCONTRACT - 626 PAH Physals LL (EAL) + TICs 6011B_ORO_LL - (MOD) GRO 6011B_DRO_LL_CS - HNL Range: C10-C24/C24-C38/C3-C18 625.1_PREG - (MOD) 625phs PLUS TICs 637.1_DW_PREG - 637.1 Full List 633 - All Analytes				
Fax:		MO #:	Field Filled Sample (Yes or No) SUBCONTRACT - 626 PAH Physals LL (EAL) + TICs 6011B_ORO_LL - (MOD) GRO 6011B_DRO_LL_CS - HNL Range: C10-C24/C24-C38/C3-C18 625.1_PREG - (MOD) 625phs PLUS TICs 637.1_DW_PREG - 637.1 Full List 633 - All Analytes				
Project Name:		Project #:	Field Filled Sample (Yes or No) SUBCONTRACT - 626 PAH Physals LL (EAL) + TICs 6011B_ORO_LL - (MOD) GRO 6011B_DRO_LL_CS - HNL Range: C10-C24/C24-C38/C3-C18 625.1_PREG - (MOD) 625phs PLUS TICs 637.1_DW_PREG - 637.1 Full List 633 - All Analytes				
Site:		SSOWF:	Field Filled Sample (Yes or No) SUBCONTRACT - 626 PAH Physals LL (EAL) + TICs 6011B_ORO_LL - (MOD) GRO 6011B_DRO_LL_CS - HNL Range: C10-C24/C24-C38/C3-C18 625.1_PREG - (MOD) 625phs PLUS TICs 637.1_DW_PREG - 637.1 Full List 633 - All Analytes				
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	Special Instructions/Notes:	
Alca Gulch Wells Pump 1 (331-201-TP071)		8-Sep-2026	1110	G	Water	chlorinated 380-295719 COC	
FB: Alca Gulch Wells Pump 1 (331-201-TP071)		8-Sep-2026	1110			380-295719 COC	
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 7 months) ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐ Return to Client ☐ Dispose By Lab ☐ Archive For Months					
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/OC Requirements:					
Empty RE Relinquished by:		Date:	Method of Shipment:				
Relinquished by: balia		Date: 08/30/2026	Received by: Maria Lopez Date/Time: 9/10/26 1005 Company: CEH				
Relinquished by:		Date/Time:	Received by: Date/Time: Company:				
Custody Seals Intact:		Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 63111 1.5502 1.2 98 1-10726				

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-235719-1

SDG Number: PFAS: Aiea Gulch Wells Pump 1

Login Number: 235719

List Number: 1

Creator: Ngo, Theodore

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").	True	
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	