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# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

RED-HILL  
PFAS: Aiea Gulch Wells Pump 1

## JOB NUMBER

380-207144-1

# 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](mailto:Maria.Lopez@et.eurofinsus.com)  
(626)386-1100

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# Definitions/Glossary

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

Job ID: 380-207144-1  
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: 380-207144-1

**Job ID: 380-207144-1**

**Eurofins Pomona**

## Job Narrative 380-207144-1

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 4/8/2026 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.1°C.

### PFAS

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

## Detection Summary

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-1**

No Detections.

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

**Lab Sample ID: 380-207144-2**

No Detections.

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This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-1**

Date Collected: 04/06/26 10:58

Matrix: Drinking Water

Date Received: 04/08/26 10:00

**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 e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
9-Chlorohexadecafluoro-3-oxanonane e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:13	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	106		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C6 PFDA	105		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C5 PFHxA	107		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C4 PFHpA	109		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C8 PFOA	112		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C9 PFNA	110		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C7 PFUnA	109		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C2 PFDoA	108		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C4 PFBA	108		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C5 PFPeA	109		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C3 PFBS	107		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C3 PFHxS	110		50 - 200	04/10/26 17:14	04/11/26 18:13	1

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# Client Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-1**

Date Collected: 04/06/26 10:58

Matrix: Drinking Water

Date Received: 04/08/26 10:00

**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	04/10/26 17:14	04/11/26 18:13	1
13C2-4:2-FTS	111		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C2-6:2-FTS	112		50 - 200	04/10/26 17:14	04/11/26 18:13	1
13C2-8:2-FTS	113		50 - 200	04/10/26 17:14	04/11/26 18:13	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		04/10/26 01:46	04/10/26 11:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 11:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130	04/10/26 01:46	04/10/26 11:25	1
13C2 PFHxA	99		70 - 130	04/10/26 01:46	04/10/26 11:25	1
13C2 PFDA	107		70 - 130	04/10/26 01:46	04/10/26 11:25	1
13C3-GenX	98		70 - 130	04/10/26 01:46	04/10/26 11:25	1

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

**Lab Sample ID: 380-207144-2**

Date Collected: 04/06/26 10:58

Matrix: Water

Date Received: 04/08/26 10:00

**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		04/10/26 17:14	04/11/26 18:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1

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# Client Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-2**

Date Collected: 04/06/26 10:58

Matrix: Water

Date Received: 04/08/26 10:00

**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		04/10/26 17:14	04/11/26 18:22	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/10/26 17:14	04/11/26 18:22	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	102		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C6 PFDA	109		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C5 PFHxA	105		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C4 PFHpA	108		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C8 PFOA	110		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C9 PFNA	113		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C7 PFUnA	111		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C2 PFDoA	109		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C4 PFBA	110		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C5 PFPeA	109		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C3 PFBS	111		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C3 PFHxS	108		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C8 PFOS	110		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C2-4:2-FTS	114		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C2-6:2-FTS	111		50 - 200	04/10/26 17:14	04/11/26 18:22	1
13C2-8:2-FTS	118		50 - 200	04/10/26 17:14	04/11/26 18:22	1

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# Client Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-2**

Date Collected: 04/06/26 10:58

Matrix: Water

Date Received: 04/08/26 10:00

**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		04/10/26 01:46	04/10/26 13:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/10/26 01:46	04/10/26 13:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
d5-NEtFOSAA	104		70 - 130			04/10/26 01:46	04/10/26 13:40	1
13C2 PFHxA	102		70 - 130			04/10/26 01:46	04/10/26 13:40	1
13C2 PFDA	108		70 - 130			04/10/26 01:46	04/10/26 13:40	1
13C3-GenX	95		70 - 130			04/10/26 01:46	04/10/26 13:40	1

# Action Limit Summary

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-1**

## 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	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 1  
(331-201-TP071)**

**Lab Sample ID: 380-207144-2**

## 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	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: 380-207144-1  
 SDG: PFAS: Aiea Gulch Wells Pump 1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-207144-1	AIEA GULCH WELLS PUMP 1 (331	106	99	107	98
380-207144-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	96	101	105	98
380-207144-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	96	97	107	96

**Surrogate Legend**

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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (	104	102	108	95
LCS 380-219040/21-A	Lab Control Sample	102	104	113	99
MBL 380-219040/19-A	Method Blank	110	109	109	106
MRL 380-219040/20-A	Lab Control Sample	95	85	103	87

**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: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-207144-1	AIEA GULCH WELLS PUMP 1 (331	106	105	107	109	112	110	109	108

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-207144-1	AIEA GULCH WELLS PUMP 1 (331	108	109	107	110	109	111	112	113

**Surrogate Legend**

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 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

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-206165-E-1-A MS	Matrix Spike	105	104	106	104	106	111	106	106
380-206165-F-1-A MSD	Matrix Spike Duplicate	107	110	111	103	113	112	105	109
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	102	109	105	108	110	113	111	109
LCS 380-219210/22-A	Lab Control Sample	107	108	109	105	107	109	107	110
MBL 380-219210/20-A	Method Blank	98	103	107	107	107	108	104	104
MRL 380-219210/21-A	Lab Control Sample	106	109	108	107	112	111	108	110

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-206165-E-1-A MS	Matrix Spike	113	111	104	107	108	105	106	109
380-206165-F-1-A MSD	Matrix Spike Duplicate	110	112	106	114	114	114	110	113
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	110	109	111	108	110	114	111	118
LCS 380-219210/22-A	Lab Control Sample	109	106	106	106	109	106	104	108
MBL 380-219210/20-A	Method Blank	106	104	106	103	104	109	107	111
MRL 380-219210/21-A	Lab Control Sample	107	108	106	107	105	109	112	112

**Surrogate Legend**

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

# Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

13C5PHA = 13C5 PFHxA

C4PFHA = 13C4 PFHpA

C8PFOA = 13C8 PFOA

C9PFNA = 13C9 PFNA

13C7PUA = 13C7 PFUnA

PFD<sub>o</sub>A = 13C2 PFD<sub>o</sub>A

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: MBL 380-219210/20-A**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		04/10/26 17:14	04/11/26 14:54	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	98		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C6 PFDA	103		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C5 PFHxA	107		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C4 PFHpA	107		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C8 PFOA	107		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C9 PFNA	108		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C7 PFUnA	104		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C2 PFDoA	104		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C4 PFBA	106		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C5 PFPeA	104		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C3 PFBS	106		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C3 PFHxS	103		50 - 200	04/10/26 17:14	04/11/26 14:54	1

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: MBL 380-219210/20-A**

**Matrix: Water**

**Analysis Batch: 219378**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 219210**

<i>Isotope Dilution</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
13C8 PFOS	104		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C2-4:2-FTS	109		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C2-6:2-FTS	107		50 - 200	04/10/26 17:14	04/11/26 14:54	1
13C2-8:2-FTS	111		50 - 200	04/10/26 17:14	04/11/26 14:54	1

**Lab Sample ID: LCS 380-219210/22-A**

**Matrix: Water**

**Analysis Batch: 219378**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 219210**

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	115		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	120		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	125		ng/L		104	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	122		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	127		ng/L		105	70 - 130
Perfluorodecanoic acid (PFDA)	120	122		ng/L		101	70 - 130
Perfluorododecanoic acid (PFDoA)	120	123		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	122		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	121		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	120	124		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	120	123		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	120		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	120	119		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	127		ng/L		106	70 - 130
Perfluorobutanoic acid (PFBA)	120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	124		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	124		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	124		ng/L		103	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	115		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	123		ng/L		103	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	120		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	120	122		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	121		ng/L		101	70 - 130

# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: LCS 380-219210/22-A**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	125		ng/L		104	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	107		50 - 200				
13C6 PFDA	108		50 - 200				
13C5 PFHxA	109		50 - 200				
13C4 PFHpA	105		50 - 200				
13C8 PFOA	107		50 - 200				
13C9 PFNA	109		50 - 200				
13C7 PFUnA	107		50 - 200				
13C2 PFDoA	110		50 - 200				
13C4 PFBA	109		50 - 200				
13C5 PFPeA	106		50 - 200				
13C3 PFBS	106		50 - 200				
13C3 PFHxS	106		50 - 200				
13C8 PFOS	109		50 - 200				
13C2-4:2-FTS	106		50 - 200				
13C2-6:2-FTS	104		50 - 200				
13C2-8:2-FTS	108		50 - 200				

**Lab Sample ID: MRL 380-219210/21-A**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.39	J	ng/L		119	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.38	J	ng/L		119	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.34	J	ng/L		117	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.46	J	ng/L		123	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.31	J	ng/L		115	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.48	J	ng/L		124	50 - 150

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: MRL 380-219210/21-A**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.39	J	ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.51	J	ng/L		125	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.49	J	ng/L		124	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.42	J	ng/L		121	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.34	J	ng/L		117	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.29	J	ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.33	J	ng/L		116	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	109		50 - 200
13C5 PFHxA	108		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	112		50 - 200
13C2-8:2-FTS	112		50 - 200

**Lab Sample ID: 380-206165-E-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	57.6		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	61.6		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	62.7		ng/L		104	70 - 130

# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Lab Sample ID: 380-206165-E-1-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 219378

Prep Batch: 219210

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		60.4	61.4		ng/L		102	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	66.6		ng/L		110	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	61.4		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	65.4		ng/L		108	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	65.7		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	62.9		ng/L		104	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	63.8		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	61.6		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	60.5		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	65.5		ng/L		109	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	64.8		ng/L		107	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	62.3		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	61.7		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	66.8		ng/L		111	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	63.0		ng/L		104	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	59.2		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	64.5		ng/L		107	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	58.1		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	62.1		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	61.6		ng/L		102	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	63.4		ng/L		105	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	62.3		ng/L		103	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	113		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	108		50 - 200

# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-206165-E-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	105		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	109		50 - 200

**Lab Sample ID: 380-206165-F-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 219378**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 219210**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MSD Result</b>	<b>MSD Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	59.9		ng/L		99	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	61.0		ng/L		101	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	65.3		ng/L		108	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	61.7		ng/L		102	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	63.1		ng/L		105	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		60.4	62.4		ng/L		103	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	64.0		ng/L		106	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	64.5		ng/L		107	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	60.3		ng/L		100	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	59.2		ng/L		98	70 - 130	7	30
Perfluorononanoic acid (PFNA)	<2.0		60.4	62.0		ng/L		103	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	60.3		ng/L		100	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		60.4	60.6		ng/L		100	70 - 130	8	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	64.8		ng/L		107	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		60.4	62.5		ng/L		104	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	65.8		ng/L		109	70 - 130	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	61.6		ng/L		102	70 - 130	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	65.7		ng/L		109	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	59.7		ng/L		99	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	64.3		ng/L		107	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	59.7		ng/L		99	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	62.3		ng/L		103	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	63.8		ng/L		106	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	60.9		ng/L		101	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	59.9		ng/L		99	70 - 130	4	30

# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	107		50 - 200
13C6 PFDA	110		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	105		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	114		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	113		50 - 200

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

**Lab Sample ID: MBL 380-219040/19-A**  
**Matrix: Water**  
**Analysis Batch: 219073**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 219040**

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/10/26 01:46	04/10/26 10:56	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	110		70 - 130			04/10/26 01:46	04/10/26 10:56	1
13C2 PFHxA	109		70 - 130			04/10/26 01:46	04/10/26 10:56	1
13C2 PFDA	109		70 - 130			04/10/26 01:46	04/10/26 10:56	1

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-207144-1  
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 380-219040/19-A**  
**Matrix: Water**  
**Analysis Batch: 219073**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 219040**

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	106	Qualifier	70 - 130	04/10/26 01:46	04/10/26 10:56	1

**Lab Sample ID: LCS 380-219040/21-A**  
**Matrix: Water**  
**Analysis Batch: 219073**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 219040**

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>					
Hexafluoropropylene Oxide	25.0	24.8		ng/L		99		70 - 130
Dimer Acid (HFPO-DA/GenX)								
Perfluorooctanesulfonic acid (PFOS)	25.0	25.6		ng/L		102		70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	26.4		ng/L		106		70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	24.4		ng/L		97		70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	25.1		ng/L		100		70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	25.2		ng/L		101		70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	25.5		ng/L		102		70 - 130
Perfluorooctanoic acid (PFOA)	25.0	25.1		ng/L		100		70 - 130
Perfluorodecanoic acid (PFDA)	25.0	27.2		ng/L		109		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	24.9		ng/L		99		70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	25.6		ng/L		103		70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	24.6		ng/L		98		70 - 130
Perfluorononanoic acid (PFNA)	25.0	27.0		ng/L		108		70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	26.7		ng/L		107		70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	29.1		ng/L		116		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	25.0		ng/L		100		70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	23.5		ng/L		94		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	24.6		ng/L		98		70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	104		70 - 130
13C2 PFDA	113		70 - 130
13C3-GenX	99		70 - 130

# QC Sample Results

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

Job ID: 380-207144-1  
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 380-219040/20-A**  
**Matrix: Water**  
**Analysis Batch: 219073**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 219040**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.68	J	ng/L		84	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.09	J	ng/L		105	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.84	J	ng/L		92	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.80	J	ng/L		90	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.81	J	ng/L		90	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.23	J	ng/L		111	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.00	J	ng/L		100	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.79	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.73	J	ng/L		86	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	85		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	87		70 - 130

**Lab Sample ID: 380-207144-1 MS**  
**Matrix: Drinking Water**  
**Analysis Batch: 219073**

**Client Sample ID: AIEA GULCH WELLS PUMP 1 (331-201-TP071)**  
**Prep Type: Total/NA**  
**Prep Batch: 219040**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.1	49.0		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.1	50.1		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.1	52.1		ng/L		104	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.1	47.4		ng/L		95	70 - 130

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# QC Sample Results

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-1 MS**

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

**Matrix: Drinking Water**

**Prep Type: Total/NA**

**Analysis Batch: 219073**

**Prep Batch: 219040**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		50.1	48.9		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		50.1	50.1		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		50.1	49.3		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		50.1	49.2		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		50.1	50.9		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.1	49.9		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.1	49.9		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		50.1	46.9		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		50.1	51.4		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		50.1	53.5		ng/L		107	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.1	57.4		ng/L		115	70 - 130
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.1	47.7		ng/L		95	70 - 130
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.1	45.4		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.1	49.6		ng/L		99	70 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
d5-NEtFOSAA	96		70 - 130
13C2 PFHxA	101		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	98		70 - 130

**Lab Sample ID: 380-207144-1 MSD**

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

**Matrix: Drinking Water**

**Prep Type: Total/NA**

**Analysis Batch: 219073**

**Prep Batch: 219040**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.1	47.7		ng/L		95	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.1	51.4		ng/L		103	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.1	54.8		ng/L		109	70 - 130	5	30
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	<2.0		50.1	49.6		ng/L		99	70 - 130	5	30
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		50.1	49.5		ng/L		99	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.1	48.9		ng/L		96	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.1	50.8		ng/L		101	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		50.1	47.1		ng/L		94	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		50.1	53.1		ng/L		106	70 - 130	4	30

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# QC Association Summary

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

Job ID: 380-207144-1  
 SDG: PFAS: Aiea Gulch Wells Pump 1

## LCMS

### Prep Batch: 219040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-207144-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	537.1 DW	
MBL 380-219040/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-219040/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-219040/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-207144-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	
380-207144-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	537.1 DW	

### Analysis Batch: 219073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-207144-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA 537.1 V2	219040
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	EPA 537.1 V2	219040
MBL 380-219040/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	219040
LCS 380-219040/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	219040
MRL 380-219040/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	219040
380-207144-1 MS	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA 537.1 V2	219040
380-207144-1 MSD	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	EPA 537.1 V2	219040

### Prep Batch: 219210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-207144-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	533	
MBL 380-219210/20-A	Method Blank	Total/NA	Water	533	
LCS 380-219210/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-219210/21-A	Lab Control Sample	Total/NA	Water	533	
380-206165-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-206165-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 219378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-207144-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Drinking Water	533	219210
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Total/NA	Water	533	219210
MBL 380-219210/20-A	Method Blank	Total/NA	Water	533	219210
LCS 380-219210/22-A	Lab Control Sample	Total/NA	Water	533	219210
MRL 380-219210/21-A	Lab Control Sample	Total/NA	Water	533	219210
380-206165-E-1-A MS	Matrix Spike	Total/NA	Water	533	219210
380-206165-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	219210

# Lab Chronicle

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

Job ID: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

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

**Lab Sample ID: 380-207144-1**

Date Collected: 04/06/26 10:58

Matrix: Drinking Water

Date Received: 04/08/26 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			219210	N8NE	EA POM	04/10/26 17:14
Total/NA	Analysis	533		1	219378	M7ML	EA POM	04/11/26 18:13
Total/NA	Prep	537.1 DW			219040	G9MN	EA POM	04/10/26 01:46
Total/NA	Analysis	EPA 537.1 V2		1	219073	Y5FM	EA POM	04/10/26 11:25

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

**Lab Sample ID: 380-207144-2**

Date Collected: 04/06/26 10:58

Matrix: Water

Date Received: 04/08/26 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			219210	N8NE	EA POM	04/10/26 17:14
Total/NA	Analysis	533		1	219378	M7ML	EA POM	04/11/26 18:22
Total/NA	Prep	537.1 DW			219040	G9MN	EA POM	04/10/26 01:46
Total/NA	Analysis	EPA 537.1 V2		1	219073	Y5FM	EA POM	04/10/26 13:40

**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: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

## Laboratory: Eurofins Pomona

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

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

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

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

# Method Summary

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

Job ID: 380-207144-1  
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: 380-207144-1  
SDG: PFAS: Aiea Gulch Wells Pump 1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-207144-1	AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Drinking Water	04/06/26 10:58	04/08/26 10:00	Hawaii
380-207144-2	FB: AIEA GULCH WELLS PUMP 1 (331-201-TP071)	Water	04/06/26 10:58	04/08/26 10:00	Hawaii

- 1
- 2
- 3
- 4
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- 16
- 17



## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-207144-1  
SDG Number: PFAS: Aiea Gulch Wells Pump 1

**Login Number: 207144**

**List Number: 1**

**Creator: Gross, Drake**

**List Source: Eurofins Pomona**

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
ClO4 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	

