

# 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]  
533, 537.1

## JOB NUMBER

380-98627-1

# Eurofins Eaton Analytical 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 Eaton Analytical, 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



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Authorized for release by  
Rachelle Arada, Project Manager  
[Rachelle.Arada@et.eurofinsus.com](mailto:Rachelle.Arada@et.eurofinsus.com)  
(626)386-1106



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	3
Definitions/Glossary . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Action Limit Summary . . . . .	22
Surrogate Summary . . . . .	26
Isotope Dilution Summary . . . . .	27
QC Sample Results . . . . .	29
QC Association Summary . . . . .	46
Lab Chronicle . . . . .	48
Certification Summary . . . . .	50
Method Summary . . . . .	51
Sample Summary . . . . .	52
Chain of Custody . . . . .	53
Receipt Checklists . . . . .	58

# Definitions/Glossary

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

Job ID: 380-98627-1  
SDG: 533, 537.1

## 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.
α	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 [PFAS]

Job ID: 380-98627-1

**Job ID: 380-98627-1**

**Eurofins Eaton Analytical Pomona**

## Job Narrative 380-98627-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 6/6/2024 10:22 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.8°C, 3.2°C and 3.3°C.

### PFAS

Method EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results. MOANALUA WELLS (331-223-TP202) (380-98627-1), AIEA WELLS PUMPS 1&2 (260) (331-203-TP400) (380-98627-3) and HALAWA WELLS UNITS 1 & 2 (331-206-TP065) (380-98627-4)

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 [PFAS]

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: MOANALUA WELLS (331-223-TP202)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-1**

No Detections.

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

**Lab Sample ID: 380-98627-2**

No Detections.

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-3**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L	1		533	Total/NA

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-4**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		2.0	ng/L	1		537.1	Total/NA

**Client Sample ID: FB MOANALUA WELLS**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-5**

No Detections.

**Client Sample ID: FB AIEA GULCH WELLS PUMP2**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-6**

No Detections.

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-7**

No Detections.

**Client Sample ID: FB HALAWA WELLS UNITS 1&2**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-8**

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 [PFAS]

Job ID: 380-98627-1  
 SDG: 533, 537.1

**Client Sample ID: MOANALUA WELLS (331-223-TP202)**

**Lab Sample ID: 380-98627-1**

**Date Collected: 06/04/24 11:21**

**Matrix: Drinking Water**

**Date Received: 06/06/24 10:22**

**PWSID Number: HI0000331**

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C6 PFDA	66		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C5 PFHxA	84		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C4 PFHpA	83		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C8 PFOA	77		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C9 PFNA	64		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C7 PFUnA	71		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C2 PFDoA	82		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C4 PFBA	94		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C5 PFPeA	98		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C3 PFBS	106		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C3 PFHxS	116		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C8 PFOS	107		50 - 200	06/09/24 17:13	06/10/24 14:12	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: MOANALUA WELLS (331-223-TP202)**

**Lab Sample ID: 380-98627-1**

Date Collected: 06/04/24 11:21

Matrix: Drinking Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	119		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C2-6:2-FTS	104		50 - 200	06/09/24 17:13	06/10/24 14:12	1
13C2-8:2-FTS	100		50 - 200	06/09/24 17:13	06/10/24 14:12	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130	06/07/24 07:59	06/07/24 23:24	1
13C2 PFHxA	102		70 - 130	06/07/24 07:59	06/07/24 23:24	1
13C2 PFDA	109		70 - 130	06/07/24 07:59	06/07/24 23:24	1
13C3-GenX	106		70 - 130	06/07/24 07:59	06/07/24 23:24	1

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

**Lab Sample ID: 380-98627-2**

Date Collected: 06/04/24 12:00

Matrix: Drinking Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

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

**Lab Sample ID: 380-98627-2**

**Date Collected: 06/04/24 12:00**

**Matrix: Drinking Water**

**Date Received: 06/06/24 10:22**

**PWSID Number: HI0000331**

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:21	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C6 PFDA	97		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C5 PFHxA	99		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C4 PFHpA	92		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C8 PFOA	93		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C9 PFNA	94		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C7 PFUnA	97		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C2 PFDoA	99		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C4 PFBA	101		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C5 PFPeA	101		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C3 PFBS	107		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C3 PFHxS	111		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C8 PFOS	107		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C2-4:2-FTS	116		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C2-6:2-FTS	102		50 - 200			06/09/24 17:13	06/10/24 14:21	1
13C2-8:2-FTS	97		50 - 200			06/09/24 17:13	06/10/24 14:21	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

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

**Lab Sample ID: 380-98627-2**

Date Collected: 06/04/24 12:00

Matrix: Drinking Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130			06/07/24 07:59	06/07/24 23:34	1
13C2 PFHxA	105		70 - 130			06/07/24 07:59	06/07/24 23:34	1
13C2 PFDA	107		70 - 130			06/07/24 07:59	06/07/24 23:34	1
13C3-GenX	102		70 - 130			06/07/24 07:59	06/07/24 23:34	1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-98627-3**

Date Collected: 06/04/24 12:25

Matrix: Drinking Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)  
(331-203-TP400)**

**Lab Sample ID: 380-98627-3**

Date Collected: 06/04/24 12:25

Matrix: Drinking Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>2.5</b>		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/12/24 07:35	06/13/24 00:38	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C3 HFPO-DA	79		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C6 PFDA	90		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C5 PFHxA	79		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C4 PFHpA	82		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C8 PFOA	84		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C9 PFNA	84		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C7 PFUnA	86		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C2 PFDoA	84		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C4 PFBA	91		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C5 PFPeA	88		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C3 PFBS	98		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C3 PFHxS	106		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C8 PFOS	104		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C2-4:2-FTS	99		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C2-6:2-FTS	87		50 - 200			06/12/24 07:35	06/13/24 00:38	1
13C2-8:2-FTS	88		50 - 200			06/12/24 07:35	06/13/24 00:38	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)**  
**(331-203-TP400)**

**Lab Sample ID: 380-98627-3**

**Date Collected: 06/04/24 12:25**

**Matrix: Drinking Water**

**Date Received: 06/06/24 10:22**

**PWSID Number: HI0000331**

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:44	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	105		70 - 130			06/07/24 07:59	06/07/24 23:44	1
13C2 PFHxA	109		70 - 130			06/07/24 07:59	06/07/24 23:44	1
13C2 PFDA	111		70 - 130			06/07/24 07:59	06/07/24 23:44	1
13C3-GenX	108		70 - 130			06/07/24 07:59	06/07/24 23:44	1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2**  
**(331-206-TP065)**

**Lab Sample ID: 380-98627-4**

**Date Collected: 06/04/24 11:40**

**Matrix: Drinking Water**

**Date Received: 06/06/24 10:22**

**PWSID Number: HI0000331**

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>2.3</b>		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>2.3</b>		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2  
(331-206-TP065)**

**Lab Sample ID: 380-98627-4**

Date Collected: 06/04/24 11:40

Matrix: Drinking Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>2.2</b>		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:41	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C6 PFDA	88		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C5 PFHxA	96		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C4 PFHpA	93		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C8 PFOA	87		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C9 PFNA	83		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C7 PFUnA	90		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C2 PFDoA	94		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C4 PFBA	105		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C5 PFPeA	102		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C3 PFBS	107		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C3 PFHxS	117		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C8 PFOS	110		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C2-4:2-FTS	127		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C2-6:2-FTS	105		50 - 200			06/09/24 17:13	06/10/24 14:41	1
13C2-8:2-FTS	101		50 - 200			06/09/24 17:13	06/10/24 14:41	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>2.3</b>		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>2.1</b>		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2  
(331-206-TP065)**

**Lab Sample ID: 380-98627-4**

Date Collected: 06/04/24 11:40  
Date Received: 06/06/24 10:22

Matrix: Drinking Water  
PWSID Number: HI0000331

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>2.7</b>		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/07/24 23:53	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	100		70 - 130			06/07/24 07:59	06/07/24 23:53	1
13C2 PFHxA	104		70 - 130			06/07/24 07:59	06/07/24 23:53	1
13C2 PFDA	112		70 - 130			06/07/24 07:59	06/07/24 23:53	1
13C3-GenX	106		70 - 130			06/07/24 07:59	06/07/24 23:53	1

**Client Sample ID: FB MOANALUA WELLS**

**Lab Sample ID: 380-98627-5**

Date Collected: 06/04/24 11:21  
Date Received: 06/06/24 10:22

Matrix: Water  
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: FB MOANALUA WELLS**

**Lab Sample ID: 380-98627-5**

Date Collected: 06/04/24 11:21

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 14:50	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C6 PFDA	104		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C5 PFHxA	97		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C4 PFHpA	98		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C8 PFOA	98		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C9 PFNA	98		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C7 PFUnA	100		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C2 PFDoA	106		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C4 PFBA	99		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C5 PFPeA	100		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C3 PFBS	108		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C3 PFHxS	121		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C8 PFOS	116		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C2-4:2-FTS	122		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C2-6:2-FTS	107		50 - 200			06/09/24 17:13	06/10/24 14:50	1
13C2-8:2-FTS	103		50 - 200			06/09/24 17:13	06/10/24 14:50	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: FB MOANALUA WELLS**

**Lab Sample ID: 380-98627-5**

Date Collected: 06/04/24 11:21

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:03	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130			06/07/24 07:59	06/08/24 00:03	1
13C2 PFHxA	102		70 - 130			06/07/24 07:59	06/08/24 00:03	1
13C2 PFDA	110		70 - 130			06/07/24 07:59	06/08/24 00:03	1
13C3-GenX	101		70 - 130			06/07/24 07:59	06/08/24 00:03	1

**Client Sample ID: FB AIEA GULCH WELLS PUMP2**

**Lab Sample ID: 380-98627-6**

Date Collected: 06/04/24 12:00

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: FB AIEA GULCH WELLS PUMP2**

**Lab Sample ID: 380-98627-6**

Date Collected: 06/04/24 12:00

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:00	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C6 PFDA	108		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C5 PFHxA	101		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C4 PFHpA	107		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C8 PFOA	106		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C9 PFNA	103		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C7 PFUnA	102		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C2 PFDoA	103		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C4 PFBA	105		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C5 PFPeA	104		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C3 PFBS	107		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C3 PFHxS	116		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C8 PFOS	113		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C2-4:2-FTS	115		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C2-6:2-FTS	107		50 - 200			06/09/24 17:13	06/10/24 15:00	1
13C2-8:2-FTS	100		50 - 200			06/09/24 17:13	06/10/24 15:00	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:13	1

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# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: FB AIEA GULCH WELLS PUMP2**

**Lab Sample ID: 380-98627-6**

**Date Collected: 06/04/24 12:00**

**Matrix: Water**

**Date Received: 06/06/24 10:22**

**PWSID Number: HI0000331**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105		70 - 130	06/07/24 07:59	06/08/24 00:13	1
13C2 PFHxA	95		70 - 130	06/07/24 07:59	06/08/24 00:13	1
13C2 PFDA	105		70 - 130	06/07/24 07:59	06/08/24 00:13	1
13C3-GenX	98		70 - 130	06/07/24 07:59	06/08/24 00:13	1

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)**

**Lab Sample ID: 380-98627-7**

**Date Collected: 06/04/24 12:25**

**Matrix: Water**

**Date Received: 06/06/24 10:22**

**PWSID Number: HI0000331**

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:10	1
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
13C3 HFPO-DA	93		50 - 200	06/09/24 17:13	06/10/24 15:10	1		
13C6 PFDA	102		50 - 200	06/09/24 17:13	06/10/24 15:10	1		
13C5 PFHxA	96		50 - 200	06/09/24 17:13	06/10/24 15:10	1		

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# Client Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)**

**Lab Sample ID: 380-98627-7**

Date Collected: 06/04/24 12:25

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	99		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C8 PFOA	104		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C9 PFNA	96		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C7 PFUnA	101		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C2 PFDoA	100		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C4 PFBA	103		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C5 PFPeA	103		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C3 PFBS	105		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C3 PFHxS	112		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C8 PFOS	104		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C2-4:2-FTS	109		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C2-6:2-FTS	103		50 - 200	06/09/24 17:13	06/10/24 15:10	1
13C2-8:2-FTS	96		50 - 200	06/09/24 17:13	06/10/24 15:10	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130	06/07/24 07:59	06/08/24 00:22	1
13C2 PFHxA	100		70 - 130	06/07/24 07:59	06/08/24 00:22	1
13C2 PFDA	107		70 - 130	06/07/24 07:59	06/08/24 00:22	1
13C3-GenX	98		70 - 130	06/07/24 07:59	06/08/24 00:22	1

# Client Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

**Client Sample ID: FB HALAWA WELLS UNITS 1&2**

**Lab Sample ID: 380-98627-8**

Date Collected: 06/04/24 11:40

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/24 17:13	06/10/24 15:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C6 PFDA	107		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C5 PFHxA	103		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C4 PFHpA	106		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C8 PFOA	107		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C9 PFNA	103		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C7 PFUnA	105		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C2 PFDoA	109		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C4 PFBA	106		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C5 PFPeA	105		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C3 PFBS	109		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C3 PFHxS	118		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C8 PFOS	111		50 - 200	06/09/24 17:13	06/10/24 15:19	1

Eurofins Eaton Analytical Pomona

# Client Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: FB HALAWA WELLS UNITS 1&2**

**Lab Sample ID: 380-98627-8**

Date Collected: 06/04/24 11:40

Matrix: Water

Date Received: 06/06/24 10:22

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-4:2-FTS	116		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C2-6:2-FTS	104		50 - 200	06/09/24 17:13	06/10/24 15:19	1
13C2-8:2-FTS	102		50 - 200	06/09/24 17:13	06/10/24 15:19	1

**Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/07/24 07:59	06/08/24 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		70 - 130	06/07/24 07:59	06/08/24 00:43	1
13C2 PFHxA	109		70 - 130	06/07/24 07:59	06/08/24 00:43	1
13C2 PFDA	112		70 - 130	06/07/24 07:59	06/08/24 00:43	1
13C3-GenX	109		70 - 130	06/07/24 07:59	06/08/24 00:43	1

# Action Limit Summary

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: MOANALUA WELLS (331-223-TP202)**

**Lab Sample ID: 380-98627-1**

**PWSID Number: HI0000331**

## Compliance Check

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

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

**Client Sample ID: AIEA GULCH WELLS PUMP 2**

**Lab Sample ID: 380-98627-2**

**(331-202-TP072)**

**PWSID Number: HI0000331**

## Compliance Check

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

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

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)**

**Lab Sample ID: 380-98627-3**

**(331-203-TP400)**

**PWSID Number: HI0000331**

## Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA

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# Action Limit Summary

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: AIEA WELLS PUMPS 1&2 (260)**  
**(331-203-TP400) (Continued)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-3**

## 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			
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		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	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

**Client Sample ID: HALAWA WELLS UNITS 1 & 2**  
**(331-206-TP065)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-4**

## 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)	2.3		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		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	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.7		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

**Client Sample ID: FB MOANALUA WELLS**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-5**

## 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

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# Action Limit Summary

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

Job ID: 380-98627-1  
SDG: 533, 537.1

**Client Sample ID: FB MOANALUA WELLS (Continued)**

**Lab Sample ID: 380-98627-5**

**PWSID Number: HI0000331**

## Compliance Check

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

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

**Client Sample ID: FB AIEA GULCH WELLS PUMP2**

**Lab Sample ID: 380-98627-6**

**PWSID Number: HI0000331**

## Compliance Check

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

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

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)**

**Lab Sample ID: 380-98627-7**

**PWSID Number: HI0000331**

## Compliance Check

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

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

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# Action Limit Summary

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

**Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)**  
**(Continued)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-7**

## 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
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

**Client Sample ID: FB HALAWA WELLS UNITS 1&2**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-98627-8**

## 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	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

# Surrogate Summary

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

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)
380-98627-1	MOANALUA WELLS (331-223-T	100	102	109	106
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	101	105	107	102
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	105	109	111	108
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	100	104	112	106

**Surrogate Legend**

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

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

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)
380-98627-5	FB MOANALUA WELLS	106	102	110	101
380-98627-6	FB AIEA GULCH WELLS PUMP	105	95	105	98
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	99	100	107	98
380-98627-8	FB HALAWA WELLS UNITS 1&2	104	109	112	109
380-98705-O-1-A MS	Matrix Spike	98	94	101	93
380-98705-P-1-A MSD	Matrix Spike Duplicate	99	100	102	100
LCS 380-93955/24-A	Lab Control Sample	95	89	101	88
MBL 380-93955/22-A	Method Blank	95	91	98	91
MRL 380-93955/23-A	Lab Control Sample	91	80	90	83

**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 [PFAS]

Job ID: 380-98627-1  
SDG: 533, 537.1

## 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)	PFDaA (50-200)
380-98627-1	MOANALUA WELLS (331-223-T	80	66	84	83	77	64	71	82
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	92	97	99	92	93	94	97	99
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	79	90	79	82	84	84	86	84
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	88	88	96	93	87	83	90	94

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)
380-98627-1	MOANALUA WELLS (331-223-T	94	98	106	116	107	119	104	100
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	101	101	107	111	107	116	102	97
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	91	88	98	106	104	99	87	88
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	105	102	107	117	110	127	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

## 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)	PFDaA (50-200)
380-98627-5	FB MOANALUA WELLS	88	104	97	98	98	98	100	106
380-98627-6	FB AIEA GULCH WELLS PUMP	96	108	101	107	106	103	102	103
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	93	102	96	99	104	96	101	100
380-98627-8	FB HALAWA WELLS UNITS 1&2	95	107	103	106	107	103	105	109
380-98680-E-1-A MS	Matrix Spike	85	99	86	88	90	88	97	99
380-98680-F-1-A MSD	Matrix Spike Duplicate	91	100	87	94	96	91	93	97
380-99187-B-1-A MS	Matrix Spike	85	92	88	91	89	87	86	92
380-99187-C-1-A MSD	Matrix Spike Duplicate	82	89	81	87	88	84	89	94

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# Isotope Dilution Summary

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

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)
LCS 380-94121/22-A	Lab Control Sample	91	107	94	102	102	97	104	104
LCS 380-94608/22-A	Lab Control Sample	102	112	101	109	109	105	111	110
MBL 380-94121/20-A	Method Blank	95	105	95	101	103	97	104	106
MBL 380-94608/20-A	Method Blank	92	105	99	98	101	98	104	110
MRL 380-94121/21-A	Lab Control Sample	92	102	94	97	96	93	96	104
MRL 380-94608/21-A	Lab Control Sample	104	113	105	108	110	105	104	113

### 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)
380-98627-5	FB MOANALUA WELLS	99	100	108	121	116	122	107	103
380-98627-6	FB AIEA GULCH WELLS PUMP	105	104	107	116	113	115	107	100
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	103	103	105	112	104	109	103	96
380-98627-8	FB HALAWA WELLS UNITS 1&2	106	105	109	118	111	116	104	102
380-98680-E-1-A MS	Matrix Spike	86	87	110	117	106	117	109	109
380-98680-F-1-A MSD	Matrix Spike Duplicate	96	99	106	114	104	114	102	102
380-99187-B-1-A MS	Matrix Spike	98	99	101	107	105	106	91	91
380-99187-C-1-A MSD	Matrix Spike Duplicate	94	96	100	103	105	98	91	88
LCS 380-94121/22-A	Lab Control Sample	103	102	107	114	107	113	105	104
LCS 380-94608/22-A	Lab Control Sample	109	110	98	108	105	93	88	91
MBL 380-94121/20-A	Method Blank	101	99	106	120	109	118	102	107
MBL 380-94608/20-A	Method Blank	100	102	92	105	99	109	91	92
MRL 380-94121/21-A	Lab Control Sample	105	100	108	122	108	123	107	112
MRL 380-94608/21-A	Lab Control Sample	111	110	105	111	107	102	92	93

#### 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 [PFAS]

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: MBL 380-94121/20-A**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	0.392	J	2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		06/09/24 17:13	06/10/24 13:00	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C6 PFDA	105		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C5 PFHxA	95		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C4 PFHpA	101		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C8 PFOA	103		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C9 PFNA	97		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C7 PFUnA	104		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C2 PFDoA	106		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C4 PFBA	101		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C5 PFPeA	99		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C3 PFBS	106		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C3 PFHxS	120		50 - 200	06/09/24 17:13	06/10/24 13:00	1

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# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: MBL 380-94121/20-A**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	109		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C2-4:2-FTS	118		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C2-6:2-FTS	102		50 - 200	06/09/24 17:13	06/10/24 13:00	1
13C2-8:2-FTS	107		50 - 200	06/09/24 17:13	06/10/24 13:00	1

**Lab Sample ID: LCS 380-94121/22-A**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	54.1		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	55.9		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	55.4		ng/L		92	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	57.9		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	60.3		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	57.1		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	57.3		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	54.3		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	55.7		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	56.9		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	60.1	59.7		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	57.6		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	55.8		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.1	58.8		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	56.3		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	60.5		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	58.5		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	59.5		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	56.3		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.1	59.3		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	54.2		ng/L		90	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	53.4		ng/L		89	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	55.9		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	59.7		ng/L		99	70 - 130

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# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: LCS 380-94121/22-A**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.1	54.3		ng/L		90	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	91		50 - 200				
13C6 PFDA	107		50 - 200				
13C5 PFHxA	94		50 - 200				
13C4 PFHpA	102		50 - 200				
13C8 PFOA	102		50 - 200				
13C9 PFNA	97		50 - 200				
13C7 PFUnA	104		50 - 200				
13C2 PFDoA	104		50 - 200				
13C4 PFBA	103		50 - 200				
13C5 PFPeA	102		50 - 200				
13C3 PFBS	107		50 - 200				
13C3 PFHxS	114		50 - 200				
13C8 PFOS	107		50 - 200				
13C2-4:2-FTS	113		50 - 200				
13C2-6:2-FTS	105		50 - 200				
13C2-8:2-FTS	104		50 - 200				

**Lab Sample ID: MRL 380-94121/21-A**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.98	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.14	J	ng/L		107	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.12	J	ng/L		106	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.27	J	ng/L		113	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.27	J	ng/L		113	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.22	J	ng/L		111	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: MRL 380-94121/21-A**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.18	J	ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.35	J	ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.41	J	ng/L		120	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.64	J	ng/L		132	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.05	J	ng/L		102	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.19	J	ng/L		109	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.89	J	ng/L		94	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	92		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	97		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	93		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	104		50 - 200
13C4 PFBA	105		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	122		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	107		50 - 200
13C2-8:2-FTS	112		50 - 200

**Lab Sample ID: 380-98680-E-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

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	56.6		ng/L		94	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	58.4		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	56.1		ng/L		93	70 - 130



# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: 380-98680-E-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.4	56.8		ng/L		94	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.4	61.5		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	55.5		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	58.3		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	58.6		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	56.2		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	57.7		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	58.9		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.4	60.5		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	58.4		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	59.6		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	58.4		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	57.1		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	59.5		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	60.3		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	54.7		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	62.1		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	52.4		ng/L		87	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	54.7		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	59.0		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	59.8		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	55.9		ng/L		93	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	85		50 - 200
13C6 PFDA	99		50 - 200
13C5 PFHxA	86		50 - 200
13C4 PFHpA	88		50 - 200
13C8 PFOA	90		50 - 200
13C9 PFNA	88		50 - 200
13C7 PFUnA	97		50 - 200
13C2 PFDoA	99		50 - 200
13C4 PFBA	86		50 - 200
13C5 PFPeA	87		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	117		50 - 200
13C8 PFOS	106		50 - 200

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: 380-98680-E-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	109		50 - 200
13C2-8:2-FTS	109		50 - 200

**Lab Sample ID: 380-98680-F-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 94298**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 94121**

<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-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.6	57.0		ng/L		94	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.6	57.8		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.6	55.1		ng/L		91	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.6	57.1		ng/L		94	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.6	60.2		ng/L		99	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		60.6	57.4		ng/L		95	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.6	57.6		ng/L		95	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.6	55.0		ng/L		91	70 - 130	6	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.6	55.5		ng/L		92	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.6	59.4		ng/L		98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		60.6	60.5		ng/L		100	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.6	59.5		ng/L		98	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		60.6	55.8		ng/L		92	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.6	58.1		ng/L		96	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		60.6	58.5		ng/L		96	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.6	56.3		ng/L		93	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.6	58.1		ng/L		96	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.6	60.4		ng/L		100	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.6	58.7		ng/L		97	70 - 130	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.6	62.8		ng/L		103	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.6	55.3		ng/L		91	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.6	53.9		ng/L		89	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.6	57.2		ng/L		94	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.6	59.1		ng/L		98	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.6	53.3		ng/L		88	70 - 130	5	30

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	91		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	87		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	91		50 - 200
13C7 PFUnA	93		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	96		50 - 200
13C5 PFPeA	99		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	102		50 - 200

**Lab Sample ID: MBL 380-94608/20-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.452	J	2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1

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# QC Sample Results

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

Job ID: 380-98627-1  
SDG: 533, 537.1

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

**Lab Sample ID: MBL 380-94608/20-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		06/12/24 07:35	06/12/24 23:39	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C6 PFDA	105		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C5 PFHxA	99		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C4 PFHpA	98		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C8 PFOA	101		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C9 PFNA	98		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C7 PFUnA	104		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C2 PFDoA	110		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C4 PFBA	100		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C5 PFPeA	102		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C3 PFBS	92		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C3 PFHxS	105		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C8 PFOS	99		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C2-4:2-FTS	109		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C2-6:2-FTS	91		50 - 200	06/12/24 07:35	06/12/24 23:39	1
13C2-8:2-FTS	92		50 - 200	06/12/24 07:35	06/12/24 23:39	1

**Lab Sample ID: LCS 380-94608/22-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	54.7		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	58.9		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	56.6		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	56.5		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	60.6		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	55.6		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	58.5		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	58.7		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	55.5		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	57.8		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	60.2	59.4		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	58.4		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	58.5		ng/L		97	70 - 130

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# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: LCS 380-94608/22-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.2	56.7		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	59.3		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	59.2		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	60.2		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	59.7		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	56.8		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	63.3		ng/L		105	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	55.7		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	55.2		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	56.5		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	58.3		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.2	54.6		ng/L		91	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	101		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	111		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	110		50 - 200
13C3 PFBS	98		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	93		50 - 200
13C2-6:2-FTS	88		50 - 200
13C2-8:2-FTS	91		50 - 200

**Lab Sample ID: MRL 380-94608/21-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.90	J	ng/L		95	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.90	J	ng/L		94	50 - 150

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: MRL 380-94608/21-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.93	J	ng/L		96	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.79	J	ng/L		89	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.02	J	ng/L		101	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.19	J	ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.12	J	ng/L		106	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.26	J	ng/L		112	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.39	J	ng/L		119	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.89	J	ng/L		94	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	104		50 - 200
13C6 PFDA	113		50 - 200
13C5 PFHxA	105		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	113		50 - 200
13C4 PFBA	111		50 - 200
13C5 PFPeA	110		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	111		50 - 200

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: MRL 380-94608/21-A**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

<i>Isotope Dilution</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	92		50 - 200
13C2-8:2-FTS	93		50 - 200

**Lab Sample ID: 380-99187-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	60.1		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	59.5		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	59.3		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	62.1		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.0		60.4	68.8		ng/L		111	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	61.9		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	61.3		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	3.0		60.4	60.4		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.6		60.4	64.5		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	22		60.4	82.8		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	62.6		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	9.7		60.4	70.2		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	6.4		60.4	69.2		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	62.9		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	5.4		60.4	66.8		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	60.9		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	60.3		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	64.8		ng/L		107	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	61.6		ng/L		102	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	66.7		ng/L		110	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	61.3		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	61.1		ng/L		101	70 - 130
Perfluoropentanoic acid (PFPeA)	12		60.4	74.6		ng/L		103	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	61.2		ng/L		101	70 - 130

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: 380-99187-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	61.4		ng/L		101	70 - 130
<b>MS MS</b>									
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
13C3 HFPO-DA	85		50 - 200						
13C6 PFDA	92		50 - 200						
13C5 PFHxA	88		50 - 200						
13C4 PFHpA	91		50 - 200						
13C8 PFOA	89		50 - 200						
13C9 PFNA	87		50 - 200						
13C7 PFUnA	86		50 - 200						
13C2 PFDoA	92		50 - 200						
13C4 PFBA	98		50 - 200						
13C5 PFPeA	99		50 - 200						
13C3 PFBS	101		50 - 200						
13C3 PFHxS	107		50 - 200						
13C8 PFOS	105		50 - 200						
13C2-4:2-FTS	106		50 - 200						
13C2-6:2-FTS	91		50 - 200						
13C2-8:2-FTS	91		50 - 200						

**Lab Sample ID: 380-99187-C-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	55.5		ng/L		92	70 - 130	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	58.6		ng/L		97	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	58.3		ng/L		97	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	59.8		ng/L		99	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	2.0		60.4	65.8		ng/L		106	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		60.4	59.7		ng/L		98	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	61.7		ng/L		102	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	3.0		60.4	62.0		ng/L		98	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	3.6		60.4	65.9		ng/L		103	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	22		60.4	82.7		ng/L		100	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		60.4	63.5		ng/L		104	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	9.7		60.4	70.1		ng/L		100	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	6.4		60.4	66.0		ng/L		99	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	60.6		ng/L		100	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	5.4		60.4	66.3		ng/L		101	70 - 130	1	30

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# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

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

**Lab Sample ID: 380-99187-C-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 94686**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 94608**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	62.0		ng/L		103	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	64.4		ng/L		107	70 - 130	7	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	61.5		ng/L		102	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	59.2		ng/L		98	70 - 130	4	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	64.6		ng/L		106	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	58.7		ng/L		97	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	58.8		ng/L		97	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	12		60.4	74.6		ng/L		103	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	60.2		ng/L		100	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	59.7		ng/L		98	70 - 130	3	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	82		50 - 200
13C6 PFDA	89		50 - 200
13C5 PFHxA	81		50 - 200
13C4 PFHpA	87		50 - 200
13C8 PFOA	88		50 - 200
13C9 PFNA	84		50 - 200
13C7 PFUnA	89		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	96		50 - 200
13C3 PFBS	100		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	98		50 - 200
13C2-6:2-FTS	91		50 - 200
13C2-8:2-FTS	88		50 - 200

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

**Lab Sample ID: MBL 380-93955/22-A**  
**Matrix: Water**  
**Analysis Batch: 94116**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1

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# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: MBL 380-93955/22-A**  
**Matrix: Water**  
**Analysis Batch: 94116**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/07/24 07:59	06/08/24 12:12	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130	06/07/24 07:59	06/08/24 12:12	1
13C2 PFHxA	91		70 - 130	06/07/24 07:59	06/08/24 12:12	1
13C2 PFDA	98		70 - 130	06/07/24 07:59	06/08/24 12:12	1
13C3-GenX	91		70 - 130	06/07/24 07:59	06/08/24 12:12	1

**Lab Sample ID: LCS 380-93955/24-A**  
**Matrix: Water**  
**Analysis Batch: 94056**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.1	52.0		ng/L		104	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.1	57.3		ng/L		114	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	59.4		ng/L		118	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	57.2		ng/L		114	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	58.9		ng/L		117	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	50.0		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	61.6		ng/L		123	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	56.0		ng/L		112	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	58.9		ng/L		117	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	56.6		ng/L		113	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	46.0		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	53.7		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	50.1	57.8		ng/L		115	70 - 130

Eurofins Eaton Analytical Pomona

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: LCS 380-93955/24-A**  
**Matrix: Water**  
**Analysis Batch: 94056**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTA)	50.1	59.1		ng/L		118	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	60.6		ng/L		121	70 - 130
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	50.1	58.0		ng/L		116	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	56.4		ng/L		113	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	56.6		ng/L		113	70 - 130
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
d5-NEtFOSAA	95		70 - 130				
13C2 PFHxA	89		70 - 130				
13C2 PFDA	101		70 - 130				
13C3-GenX	88		70 - 130				

**Lab Sample ID: MRL 380-93955/23-A**  
**Matrix: Water**  
**Analysis Batch: 94056**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.29	J	ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.29	J	ng/L		114	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.49	J	ng/L		124	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.37	J	ng/L		118	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.44	J	ng/L		122	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.33	J	ng/L		116	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.88	J	ng/L		94	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.37	J	ng/L		119	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.47	J	ng/L		123	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.48	J	ng/L		124	50 - 150
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.32	J	ng/L		116	50 - 150

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: MRL 380-93955/23-A**  
**Matrix: Water**  
**Analysis Batch: 94056**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.16	J	ng/L		108	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.31	J	ng/L		115	50 - 150
<b>Surrogate</b>	<b>MRL %Recovery</b>	<b>MRL Qualifier</b>	<b>Limits</b>				
d5-NEtFOSAA	91		70 - 130				
13C2 PFHxA	80		70 - 130				
13C2 PFDA	90		70 - 130				
13C3-GenX	83		70 - 130				

**Lab Sample ID: 380-98705-O-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94056**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

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		25.1	26.3		ng/L		105	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.4		ng/L		109	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	28.9		ng/L		115	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	28.8		ng/L		115	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	29.1		ng/L		116	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	26.3		ng/L		105	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	30.6		ng/L		122	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	29.5		ng/L		118	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	29.6		ng/L		118	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.3		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	25.6		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.1		ng/L		108	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	28.9		ng/L		115	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	28.3		ng/L		113	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	29.5		ng/L		118	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	28.0		ng/L		112	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	26.0		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	27.6		ng/L		110	70 - 130

# QC Sample Results

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: 380-98705-O-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 94056**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

Surrogate	MS %Recovery	MS Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	94		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	93		70 - 130

**Lab Sample ID: 380-98705-P-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 94116**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 93955**

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		25.2	27.2		ng/L		108	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	28.7		ng/L		114	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	28.8		ng/L		115	70 - 130	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	28.7		ng/L		114	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.2	28.8		ng/L		115	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	27.1		ng/L		108	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	29.2		ng/L		116	70 - 130	5	30
Perfluorooctanoic acid (PFOA)	<2.0		25.2	28.4		ng/L		113	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		25.2	28.9		ng/L		115	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	28.2		ng/L		112	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	27.2		ng/L		108	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.2	27.2		ng/L		108	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		25.2	28.4		ng/L		113	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	27.9		ng/L		111	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.2	29.2		ng/L		116	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	27.7		ng/L		110	70 - 130	1	30
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	26.5		ng/L		106	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	28.5		ng/L		113	70 - 130	3	30

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

# QC Association Summary

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## LCMS

### Prep Batch: 93955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1 DW	
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1 DW	
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1 DW	
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
380-98627-5	FB MOANALUA WELLS	Total/NA	Water	537.1 DW	
380-98627-6	FB AIEA GULCH WELLS PUMP2	Total/NA	Water	537.1 DW	
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	537.1 DW	
380-98627-8	FB HALAWA WELLS UNITS 1&2	Total/NA	Water	537.1 DW	
MBL 380-93955/22-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-93955/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-93955/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-98705-O-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-98705-P-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

### Analysis Batch: 94056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	537.1	93955
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	537.1	93955
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	537.1	93955
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	537.1	93955
380-98627-5	FB MOANALUA WELLS	Total/NA	Water	537.1	93955
380-98627-6	FB AIEA GULCH WELLS PUMP2	Total/NA	Water	537.1	93955
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	537.1	93955
380-98627-8	FB HALAWA WELLS UNITS 1&2	Total/NA	Water	537.1	93955
LCS 380-93955/24-A	Lab Control Sample	Total/NA	Water	537.1	93955
MRL 380-93955/23-A	Lab Control Sample	Total/NA	Water	537.1	93955
380-98705-O-1-A MS	Matrix Spike	Total/NA	Water	537.1	93955

### Analysis Batch: 94116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MBL 380-93955/22-A	Method Blank	Total/NA	Water	537.1	93955
380-98705-P-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	93955

### Prep Batch: 94121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	
380-98627-5	FB MOANALUA WELLS	Total/NA	Water	533	
380-98627-6	FB AIEA GULCH WELLS PUMP2	Total/NA	Water	533	
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	533	
380-98627-8	FB HALAWA WELLS UNITS 1&2	Total/NA	Water	533	
MBL 380-94121/20-A	Method Blank	Total/NA	Water	533	
LCS 380-94121/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-94121/21-A	Lab Control Sample	Total/NA	Water	533	
380-98680-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-98680-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 94298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-1	MOANALUA WELLS (331-223-TP202)	Total/NA	Drinking Water	533	94121

# QC Association Summary

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## LCMS (Continued)

### Analysis Batch: 94298 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Drinking Water	533	94121
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Drinking Water	533	94121
380-98627-5	FB MOANALUA WELLS	Total/NA	Water	533	94121
380-98627-6	FB AIEA GULCH WELLS PUMP2	Total/NA	Water	533	94121
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	Total/NA	Water	533	94121
380-98627-8	FB HALAWA WELLS UNITS 1&2	Total/NA	Water	533	94121
MBL 380-94121/20-A	Method Blank	Total/NA	Water	533	94121
LCS 380-94121/22-A	Lab Control Sample	Total/NA	Water	533	94121
MRL 380-94121/21-A	Lab Control Sample	Total/NA	Water	533	94121
380-98680-E-1-A MS	Matrix Spike	Total/NA	Water	533	94121
380-98680-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	94121

### Prep Batch: 94608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	533	94608
MBL 380-94608/20-A	Method Blank	Total/NA	Water	533	94608
LCS 380-94608/22-A	Lab Control Sample	Total/NA	Water	533	94608
MRL 380-94608/21-A	Lab Control Sample	Total/NA	Water	533	94608
380-99187-B-1-A MS	Matrix Spike	Total/NA	Water	533	94608
380-99187-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	94608

### Analysis Batch: 94686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Total/NA	Drinking Water	533	94608
MBL 380-94608/20-A	Method Blank	Total/NA	Water	533	94608
LCS 380-94608/22-A	Lab Control Sample	Total/NA	Water	533	94608
MRL 380-94608/21-A	Lab Control Sample	Total/NA	Water	533	94608
380-99187-B-1-A MS	Matrix Spike	Total/NA	Water	533	94608
380-99187-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	94608

# Lab Chronicle

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Client Sample ID: MOANALUA WELLS (331-223-TP202)

## Lab Sample ID: 380-98627-1

Date Collected: 06/04/24 11:21

Matrix: Drinking Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 14:12
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/07/24 23:24

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

## Lab Sample ID: 380-98627-2

Date Collected: 06/04/24 12:00

Matrix: Drinking Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 14:21
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/07/24 23:34

## Client Sample ID: AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)

## Lab Sample ID: 380-98627-3

Date Collected: 06/04/24 12:25

Matrix: Drinking Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94608	XTD8	EA POM	06/12/24 07:35
Total/NA	Analysis	533		1	94686	M7ML	EA POM	06/13/24 00:38
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/07/24 23:44

## Client Sample ID: HALAWA WELLS UNITS 1 & 2 (331-206-TP065)

## Lab Sample ID: 380-98627-4

Date Collected: 06/04/24 11:40

Matrix: Drinking Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 14:41
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/07/24 23:53

## Client Sample ID: FB MOANALUA WELLS

## Lab Sample ID: 380-98627-5

Date Collected: 06/04/24 11:21

Matrix: Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 14:50



# Lab Chronicle

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

Job ID: 380-98627-1  
 SDG: 533, 537.1

## Client Sample ID: FB MOANALUA WELLS

Lab Sample ID: 380-98627-5

Date Collected: 06/04/24 11:21

Matrix: Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/08/24 00:03

## Client Sample ID: FB AIEA GULCH WELLS PUMP2

Lab Sample ID: 380-98627-6

Date Collected: 06/04/24 12:00

Matrix: Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 15:00
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/08/24 00:13

## Client Sample ID: FB AIEA WELLS PUMPS 1&2 (260)

Lab Sample ID: 380-98627-7

Date Collected: 06/04/24 12:25

Matrix: Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 15:10
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/08/24 00:22

## Client Sample ID: FB HALAWA WELLS UNITS 1&2

Lab Sample ID: 380-98627-8

Date Collected: 06/04/24 11:40

Matrix: Water

Date Received: 06/06/24 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			94121	E9PK	EA POM	06/09/24 17:13
Total/NA	Analysis	533		1	94298	M7ML	EA POM	06/10/24 15:19
Total/NA	Prep	537.1 DW			93955	SL5Q	EA POM	06/07/24 07:59
Total/NA	Analysis	537.1		1	94056	Y5FM	EA POM	06/08/24 00:43

**Laboratory References:**

EA POM = Eurofins Eaton Analytical 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 [PFAS]

Job ID: 380-98627-1  
SDG: 533, 537.1

## Laboratory: Eurofins Eaton Analytical Pomona

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

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-25

- 1
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- 3
- 4
- 5
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- 17

# Method Summary

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

Job ID: 380-98627-1  
SDG: 533, 537.1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	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 Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100



# Sample Summary

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

Job ID: 380-98627-1  
SDG: 533, 537.1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-98627-1	MOANALUA WELLS (331-223-TP202)	Drinking Water	06/04/24 11:21	06/06/24 10:22	HI0000331
380-98627-2	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Drinking Water	06/04/24 12:00	06/06/24 10:22	HI0000331
380-98627-3	AIEA WELLS PUMPS 1&2 (260) (331-203-TP400)	Drinking Water	06/04/24 12:25	06/06/24 10:22	HI0000331
380-98627-4	HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Drinking Water	06/04/24 11:40	06/06/24 10:22	HI0000331
380-98627-5	FB MOANALUA WELLS	Water	06/04/24 11:21	06/06/24 10:22	HI0000331
380-98627-6	FB AIEA GULCH WELLS PUMP2	Water	06/04/24 12:00	06/06/24 10:22	HI0000331
380-98627-7	FB AIEA WELLS PUMPS 1&2 (260)	Water	06/04/24 12:25	06/06/24 10:22	HI0000331
380-98627-8	FB HALAWA WELLS UNITS 1&2	Water	06/04/24 11:40	06/06/24 10:22	HI0000331





Request From Client: 5/21/2024  
 Date Order Posted: 5/24/2024 6:03:50 AM  
 Order Status: Ready To Process  
 Prepared By: Rachelle Arada  
 Deliver By Date: 5/29/2024 11:59:00 PM  
 Lab Project Number: 38000516  
 PWSID:

Order Date:  
 Sent Via:  
 Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
7	3	21	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 PFAS	Drinking W	Normal		
7	3	21	Plastic 250ml - Ammonium Acetate	Ammonium Acetate	533 - E533 PFAS	Drinking W	Normal		
7	1	7	Plastic 250ml - Reagent Water	None	537.1_DW_PREC - 537.1 PFAS	Drinking W	Field Blank		
7	1	7	Plastic 250ml - Trizma	Trizma	537.1_DW_PREC - 537.1 PFAS	Drinking W	Field Blank		
7	1	7	Plastic 250ml - Reagent Water	None	533 - E533 PFAS	Drinking W	Field Blank		
7	1	7	Plastic 250ml - Ammonium Acetate	Ammonium Acetate	533 - E533 PFAS	Drinking W	Field Blank		

Total Bottle Summary		
Bottle Type Description	Preservative	Bottle Count
<b>Field Blank</b>		<b>28</b>
Plastic 250ml - Reagent Water	None	14
Plastic 250ml - Trizma	Trizma	7
Plastic 250ml - Ammonium Acetate	Ammonium Acetate	7
<b>Normal</b>		<b>42</b>
Plastic 250ml - Trizma	Trizma	21
Plastic 250ml - Ammonium Acetate	Ammonium Acetate	21
Total Bottles:		<b>70</b>

Notes to Field Staff:



Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative	Comment
Ammonium Acetate	Caution! May cause eye, skin, and respiratory tract irritation. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.
Trizma	CAUTION! May cause eye, skin, and respiratory tract irritation

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

ORIGIN ID:HIKA (808) 748-5840  
BWS CHEMLAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 05JUN24  
ACTWGT: 62.00 LB  
CAD: 258050552/INET4535

BILL RECIPIENT

TO EUROFINS RECEIVING DEPARTMENT  
EUROFINS DRINKING WATER TESTING  
941 CORPORATE CENTER DR

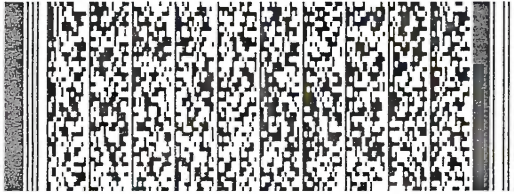
POMONA CA 91768

(626) 386-1100  
INV:  
PO:

REF:

DEPT:

583306CA99AE3



FedEx  
Express



J2402403501w

7 of 8

THU - 06 JUN 10:30A

MPS#

7767 1826 3704

PRIORITY OVERNIGHT

0263

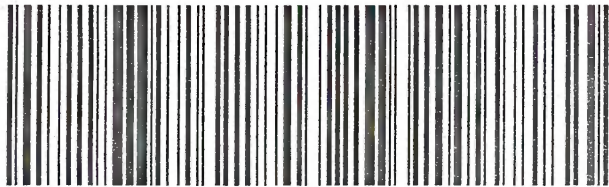
Mstr# 7767 1826 3645

0201

91768

WM ONTA

CA-US ONT



After printing this label:  
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH  
1. Fold the printed page along the horizontal line.  
2. Place label in shipping pouch and affix it to your shipment.

631A 3-4-0-1 = 3-3 G-02

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ORIGIN ID:HIKA (808) 748-5840  
BWS CHEMLAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 05JUN24  
ACTWGT: 62.00 LB  
CAD: 258050552/INET4535

BILL RECIPIENT

TO EUROFINS RECEIVING DEPARTMENT  
EUROFINS DRINKING WATER TESTING  
941 CORPORATE CENTER DR

POMONA CA 91768

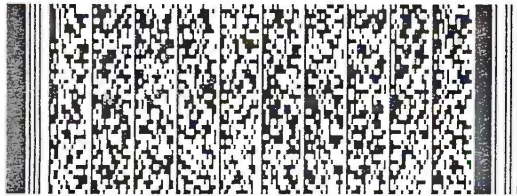
(626) 386-1100

REF:

INV:

PO:

DEPT:



FedEx Express



J42024012801W

8 of 8

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PRIORITY OVERNIGHT

MPS# 7767 1826 3715

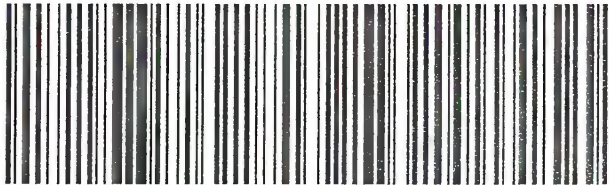
Mstr# 7767 1826 3645

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630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 05JUN24  
ACTWGT: 62.00 LB  
CAD: 258050552/INET4535

BILL RECIPIENT

TO EUROFINS RECEIVING DEPARTMENT  
EUROFINS DRINKING WATER TESTING  
941 CORPORATE CENTER DR

POMONA CA 91768

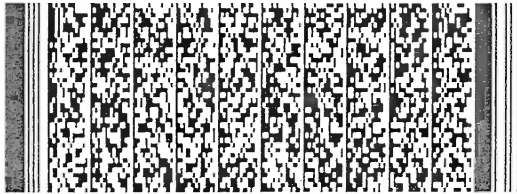
(626) 386-1100

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PO:

DEPT:



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6 of 8

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PRIORITY OVERNIGHT

MPS#

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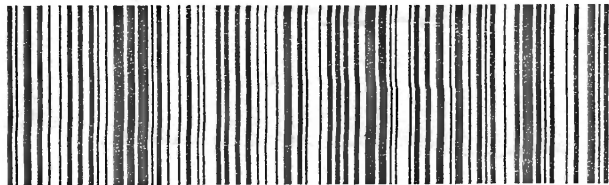
Mstr# 7767 1826 3645

0201

91768

WM ONTA

CA-US ONT



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CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH  
1. Fold the printed page along the horizontal line.  
2. Place label in shipping pouch and affix it to your shipment.

631A 3.3-0.1=3.2 6EL

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# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-98627-1

SDG Number: 533, 537.1

**Login Number: 98627**

**List Source: Eurofins Eaton Analytical Pomona**

**List Number: 1**

**Creator: Sanchez Velasquez, Gustavo**

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

