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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Erwin Kawata  
City & County of Honolulu  
630 South Beretania Street  
Public Service Bldg. Room 310  
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## JOB DESCRIPTION

RED-HILL  
PFAS: Halawa Wells Units 1&2 P1

## JOB NUMBER

380-196030-1

# Eurofins Pomona

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Drinking Water and Wastewater West, LLC Project Manager.

## Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

## Authorization



Authorized for release by  
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# Definitions/Glossary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

## Qualifiers

### LCMS

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

## Glossary

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

# Case Narrative

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

Job ID: 380-196030-1

**Job ID: 380-196030-1**

**Eurofins Pomona**

## Job Narrative 380-196030-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 2/4/2026 9:22 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 1.7°C, 2.1°C and 2.5°C.

### PFAS

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

# Detection Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1**  
**(331-206-TP065)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-196030-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	2.3		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L	1		EPA 537.1 V2	Total/NA

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

**Lab Sample ID: 380-196030-2**

No Detections.

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1  
(331-206-TP065)**

**Lab Sample ID: 380-196030-1**

Date Collected: 02/02/26 10:48

Matrix: Drinking Water

Date Received: 02/04/26 09:22

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		02/09/26 06:54	02/09/26 19:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>2.4</b>		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>2.1</b>		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>2.3</b>		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>2.1</b>		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C6 PFDA	100		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C5 PFHxA	99		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C4 PFHpA	103		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C8 PFOA	103		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C9 PFNA	104		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C7 PFUnA	99		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C2 PFDoA	100		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C4 PFBA	110		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C5 PFPeA	111		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C3 PFBS	107		50 - 200	02/09/26 06:54	02/09/26 19:14	1

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# Client Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1  
(331-206-TP065)**

**Lab Sample ID: 380-196030-1**

Date Collected: 02/02/26 10:48

Matrix: Drinking Water

Date Received: 02/04/26 09:22

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	112		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C8 PFOS	111		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C2-4:2-FTS	122		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C2-6:2-FTS	114		50 - 200	02/09/26 06:54	02/09/26 19:14	1
13C2-8:2-FTS	108		50 - 200	02/09/26 06:54	02/09/26 19:14	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>2.6</b>		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>2.3</b>		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>2.9</b>		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130	02/06/26 15:29	02/09/26 09:24	1
13C2 PFHxA	116		70 - 130	02/06/26 15:29	02/09/26 09:24	1
13C2 PFDA	124		70 - 130	02/06/26 15:29	02/09/26 09:24	1
13C3-GenX	122		70 - 130	02/06/26 15:29	02/09/26 09:24	1

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

**Lab Sample ID: 380-196030-2**

Date Collected: 02/02/26 10:48

Matrix: Water

Date Received: 02/04/26 09:22

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		02/09/26 06:54	02/09/26 19:24	1

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# Client Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: 380-196030-2**

Date Collected: 02/02/26 10:48

Matrix: Water

Date Received: 02/04/26 09:22

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
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		02/09/26 06:54	02/09/26 19:24	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C6 PFDA	99		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C5 PFHxA	103		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C4 PFHpA	102		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C8 PFOA	103		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C9 PFNA	106		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C7 PFUnA	102		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C2 PFDoA	103		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C4 PFBA	105		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C5 PFPeA	106		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C3 PFBS	110		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C3 PFHxS	114		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C8 PFOS	112		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C2-4:2-FTS	119		50 - 200	02/09/26 06:54	02/09/26 19:24	1

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# Client Sample Results

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

Job ID: 380-196030-1  
 SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: 380-196030-2**

Date Collected: 02/02/26 10:48

Matrix: Water

Date Received: 02/04/26 09:22

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-6:2-FTS	108		50 - 200	02/09/26 06:54	02/09/26 19:24	1
13C2-8:2-FTS	108		50 - 200	02/09/26 06:54	02/09/26 19:24	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/06/26 15:29	02/09/26 09:33	1

  

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130	02/06/26 15:29	02/09/26 09:33	1
13C2 PFHxA	104		70 - 130	02/06/26 15:29	02/09/26 09:33	1
13C2 PFDA	119		70 - 130	02/06/26 15:29	02/09/26 09:33	1
13C3-GenX	103		70 - 130	02/06/26 15:29	02/09/26 09:33	1

## Action Limit Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1**  
**(331-206-TP065)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-196030-1**

### Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.4		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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

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

**Lab Sample ID: 380-196030-2**

### Compliance Check

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

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

# Surrogate Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (	116	116	124	122
<b>Surrogate Legend</b>					
d5NEFOS = d5-NEtFOSAA					
PFHxA = 13C2 PFHxA					
PFDA = 13C2 PFDA					
GenX = 13C3-GenX					

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-195691-B-1-A MS	Matrix Spike	112	123	119	121
380-195691-C-1-A MSD	Matrix Spike Duplicate	107	119	119	123
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	101	104	119	103
LCS 380-204090/21-A	Lab Control Sample	101	108	120	106
MBL 380-204090/19-A	Method Blank	106	110	128	104
MRL 380-204090/20-A	Lab Control Sample	97	106	119	100
<b>Surrogate Legend</b>					
d5NEFOS = d5-NEtFOSAA					
PFHxA = 13C2 PFHxA					
PFDA = 13C2 PFDA					
GenX = 13C3-GenX					

# Isotope Dilution Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (	97	100	99	103	103	104	99	100

  

		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)
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (	110	111	107	112	111	122	114	108

**Surrogate Legend**

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 PFDaA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

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

Matrix: Water

Prep Type: Total/NA

		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)	PFDoA (50-200)
380-196010-E-1-A MS	Matrix Spike	109	110	108	109	109	111	108	110
380-196010-F-1-A MSD	Matrix Spike Duplicate	107	106	110	109	107	108	107	103
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	99	99	103	102	103	106	102	103
LCS 380-204366/22-A	Lab Control Sample	101	104	105	107	106	111	106	107
MBL 380-204366/20-A	Method Blank	94	104	103	102	99	103	102	103
MRL 380-204366/21-A	Lab Control Sample	97	99	102	101	103	101	99	99

  

		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)
380-196010-E-1-A MS	Matrix Spike	106	114	109	113	109	111	105	104
380-196010-F-1-A MSD	Matrix Spike Duplicate	106	107	107	113	107	110	104	107
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	105	106	110	114	112	119	108	108
LCS 380-204366/22-A	Lab Control Sample	105	111	108	117	112	110	108	110
MBL 380-204366/20-A	Method Blank	104	114	116	118	110	116	113	110
MRL 380-204366/21-A	Lab Control Sample	102	107	113	118	111	117	113	111

**Surrogate Legend**

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

# Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

13C5PHA = 13C5 PFHxA

C4PFHA = 13C4 PFHpA

C8PFOA = 13C8 PFOA

C9PFNA = 13C9 PFNA

13C7PUA = 13C7 PFUnA

PFDoA = 13C2 PFDoA

PFBA = 13C4 PFBA

PFPeA = 13C5 PFPeA

C3PFBS = 13C3 PFBS

C3PFHS = 13C3 PFHxS

C8PFOS = 13C8 PFOS

42FTS = 13C2-4:2-FTS

62FTS = 13C2-6:2-FTS

82FTS = 13C2-8:2-FTS

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: MBL 380-204366/20-A**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.540	J	2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		02/09/26 06:54	02/09/26 17:17	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C6 PFDA	104		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C5 PFHxA	103		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C4 PFHpA	102		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C8 PFOA	99		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C9 PFNA	103		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C7 PFUnA	102		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C2 PFDoA	103		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C4 PFBA	104		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C5 PFPeA	114		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C3 PFBS	116		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C3 PFHxS	118		50 - 200	02/09/26 06:54	02/09/26 17:17	1

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: MBL 380-204366/20-A**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

<i>Isotope Dilution</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
13C8 PFOS	110		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C2-4:2-FTS	116		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C2-6:2-FTS	113		50 - 200	02/09/26 06:54	02/09/26 17:17	1
13C2-8:2-FTS	110		50 - 200	02/09/26 06:54	02/09/26 17:17	1

**Lab Sample ID: LCS 380-204366/22-A**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>					
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	111		ng/L		92		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	111		ng/L		92		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	112		ng/L		93		70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	116		ng/L		96		70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	111		ng/L		92		70 - 130
Perfluorodecanoic acid (PFDA)	120	115		ng/L		95		70 - 130
Perfluorododecanoic acid (PFDoA)	120	110		ng/L		92		70 - 130
Perfluoroheptanoic acid (PFHpA)	120	111		ng/L		92		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	106		ng/L		88		70 - 130
Perfluorohexanoic acid (PFHxA)	120	110		ng/L		91		70 - 130
Perfluorononanoic acid (PFNA)	120	108		ng/L		89		70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	110		ng/L		92		70 - 130
Perfluorooctanoic acid (PFOA)	120	110		ng/L		91		70 - 130
Perfluoroundecanoic acid (PFUnA)	120	112		ng/L		93		70 - 130
Perfluorobutanoic acid (PFBA)	120	114		ng/L		95		70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	106		ng/L		88		70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	114		ng/L		95		70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	114		ng/L		95		70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	116		ng/L		96		70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	116		ng/L		96		70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	117		ng/L		97		70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	114		ng/L		95		70 - 130
Perfluoropentanoic acid (PFPeA)	120	115		ng/L		96		70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	110		ng/L		91		70 - 130

# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: LCS 380-204366/22-A**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	107		ng/L		88	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	101		50 - 200				
13C6 PFDA	104		50 - 200				
13C5 PFHxA	105		50 - 200				
13C4 PFHpA	107		50 - 200				
13C8 PFOA	106		50 - 200				
13C9 PFNA	111		50 - 200				
13C7 PFUnA	106		50 - 200				
13C2 PFDoA	107		50 - 200				
13C4 PFBA	105		50 - 200				
13C5 PFPeA	111		50 - 200				
13C3 PFBS	108		50 - 200				
13C3 PFHxS	117		50 - 200				
13C8 PFOS	112		50 - 200				
13C2-4:2-FTS	110		50 - 200				
13C2-6:2-FTS	108		50 - 200				
13C2-8:2-FTS	110		50 - 200				

**Lab Sample ID: MRL 380-204366/21-A**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.13	J	ng/L		106	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.17	J	ng/L		108	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.11	J	ng/L		105	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.33	J	ng/L		116	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.27	J	ng/L		113	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.13	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.27	J	ng/L		113	50 - 150

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# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: MRL 380-204366/21-A**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.20	J	ng/L		110	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	2.55	J	ng/L		127	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.29	J	ng/L		114	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.33	J	ng/L		116	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.20	J	ng/L		110	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.11	J	ng/L		105	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	97		50 - 200
13C6 PFDA	99		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	101		50 - 200
13C7 PFUnA	99		50 - 200
13C2 PFDoA	99		50 - 200
13C4 PFBA	102		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	118		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	113		50 - 200
13C2-8:2-FTS	111		50 - 200

**Lab Sample ID: 380-196010-E-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 204503**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 204366**

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		121	111		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	111		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	113		ng/L		93	70 - 130

# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: 380-196010-E-1-A MS**

**Client Sample ID: Matrix Spike**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 204503**

**Prep Batch: 204366**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		121	112		ng/L		93	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	114		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	115		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	114		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	112		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	114		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	111		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	112		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	112		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	113		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	114		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	114		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	109		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	117		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	119		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	111		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	110		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	105		ng/L		87	70 - 130
Perfluoropentanoic acid (PFPeA)	2.1		121	115		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	113		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	106		ng/L		88	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	110		50 - 200
13C5 PFHxA	108		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	109		50 - 200

# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: 380-196010-E-1-A MS**

**Matrix: Water**

**Analysis Batch: 204503**

**Client Sample ID: Matrix Spike**

**Prep Type: Total/NA**

**Prep Batch: 204366**

<i>Isotope Dilution</i>	<i>MS MS</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>	
13C2-4:2-FTS	111	50 - 200
13C2-6:2-FTS	105	50 - 200
13C2-8:2-FTS	104	50 - 200

**Lab Sample ID: 380-196010-F-1-A MSD**

**Matrix: Water**

**Analysis Batch: 204503**

**Client Sample ID: Matrix Spike Duplicate**

**Prep Type: Total/NA**

**Prep Batch: 204366**

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>Spike</i>	<i>MSD MSD</i>		<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>RPD</i>	<i>RPD</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>		<i>Limit</i>
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	112		ng/L		93	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	114		ng/L		95	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	112		ng/L		93	70 - 130	0	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	113		ng/L		93	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	116		ng/L		95	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		121	116		ng/L		96	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	114		ng/L		94	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	112		ng/L		92	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	111		ng/L		91	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	113		ng/L		92	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		121	114		ng/L		95	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	113		ng/L		93	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		121	114		ng/L		93	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	110		ng/L		91	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	<2.0		121	120		ng/L		98	70 - 130	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	108		ng/L		90	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	112		ng/L		92	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	115		ng/L		95	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	112		ng/L		92	70 - 130	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	109		ng/L		91	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	115		ng/L		96	70 - 130	5	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	113		ng/L		94	70 - 130	7	30
Perfluoropentanoic acid (PFPeA)	2.1		121	121		ng/L		99	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	113		ng/L		94	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	108		ng/L		90	70 - 130	2	30

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## QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	107		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	104		50 - 200
13C2-8:2-FTS	107		50 - 200

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

Lab Sample ID: MBL 380-204090/19-A  
Matrix: Water  
Analysis Batch: 204365

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 204090

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		02/06/26 15:29	02/09/26 07:20	1

  

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	106		70 - 130	02/06/26 15:29	02/09/26 07:20	1
13C2 PFHxA	110		70 - 130	02/06/26 15:29	02/09/26 07:20	1
13C2 PFDA	128		70 - 130	02/06/26 15:29	02/09/26 07:20	1

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# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: MBL 380-204090/19-A**  
**Matrix: Water**  
**Analysis Batch: 204365**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 204090**

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	104	Qualifier	70 - 130	02/06/26 15:29	02/09/26 07:20	1

**Lab Sample ID: LCS 380-204090/21-A**  
**Matrix: Water**  
**Analysis Batch: 204365**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 204090**

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>					
Hexafluoropropylene Oxide	50.1	46.8		ng/L		93		70 - 130
Dimer Acid (HFPO-DA/GenX)								
Perfluorooctanesulfonic acid (PFOS)	50.1	52.0		ng/L		104		70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	55.0		ng/L		110		70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	46.6		ng/L		93		70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	45.9		ng/L		92		70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	49.6		ng/L		99		70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	54.4		ng/L		109		70 - 130
Perfluorooctanoic acid (PFOA)	50.1	50.0		ng/L		100		70 - 130
Perfluorodecanoic acid (PFDA)	50.1	51.8		ng/L		103		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	52.0		ng/L		104		70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	53.2		ng/L		106		70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	49.4		ng/L		99		70 - 130
Perfluorononanoic acid (PFNA)	50.1	52.5		ng/L		105		70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	52.3		ng/L		104		70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	55.6		ng/L		111		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	53.3		ng/L		106		70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	53.6		ng/L		107		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	47.5		ng/L		95		70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	108		70 - 130
13C2 PFDA	120		70 - 130
13C3-GenX	106		70 - 130

# QC Sample Results

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Lab Sample ID: MRL 380-204090/20-A**  
**Matrix: Water**  
**Analysis Batch: 204365**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 204090**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.83	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.21	J	ng/L		110	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.31	J	ng/L		115	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.81	J	ng/L		90	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.83	J	ng/L		91	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.32	J	ng/L		116	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.31	J	ng/L		115	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.21	J	ng/L		111	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.90	J	ng/L		95	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.42	J	ng/L		121	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.26	J	ng/L		113	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.19	J	ng/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.97	J	ng/L		98	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	106		70 - 130
13C2 PFDA	119		70 - 130
13C3-GenX	100		70 - 130

**Lab Sample ID: 380-195691-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 204365**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 204090**

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		25.2	29.2		ng/L		116	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	27.1		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	27.4		ng/L		109	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	26.4		ng/L		105	70 - 130

Eurofins Pomona





# QC Association Summary

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

Job ID: 380-196030-1  
 SDG: PFAS: Halawa Wells Units 1&2 P1

## LCMS

### Prep Batch: 204090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Total/NA	Drinking Water	537.1 DW	
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Water	537.1 DW	
MBL 380-204090/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-204090/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-204090/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-195691-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-195691-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

### Analysis Batch: 204365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Total/NA	Drinking Water	EPA 537.1 V2	204090
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Water	EPA 537.1 V2	204090
MBL 380-204090/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	204090
LCS 380-204090/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	204090
MRL 380-204090/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	204090
380-195691-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	204090
380-195691-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	204090

### Prep Batch: 204366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Total/NA	Drinking Water	533	
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Water	533	
MBL 380-204366/20-A	Method Blank	Total/NA	Water	533	
LCS 380-204366/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-204366/21-A	Lab Control Sample	Total/NA	Water	533	
380-196010-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-196010-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 204503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Total/NA	Drinking Water	533	204366
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Total/NA	Water	533	204366
MBL 380-204366/20-A	Method Blank	Total/NA	Water	533	204366
LCS 380-204366/22-A	Lab Control Sample	Total/NA	Water	533	204366
MRL 380-204366/21-A	Lab Control Sample	Total/NA	Water	533	204366
380-196010-E-1-A MS	Matrix Spike	Total/NA	Water	533	204366
380-196010-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	204366

# Lab Chronicle

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

Job ID: 380-196030-1  
 SDG: PFAS: Halawa Wells Units 1&2 P1

**Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1  
 (331-206-TP065)**

**Lab Sample ID: 380-196030-1**

**Date Collected: 02/02/26 10:48**

**Matrix: Drinking Water**

**Date Received: 02/04/26 09:22**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			204366	XTD8	EA POM	02/09/26 06:54
Total/NA	Analysis	533		1	204503	M7ML	EA POM	02/09/26 19:14
Total/NA	Prep	537.1 DW			204090	N8NE	EA POM	02/06/26 15:29
Total/NA	Analysis	EPA 537.1 V2		1	204365	M7ML	EA POM	02/09/26 09:24

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

**Lab Sample ID: 380-196030-2**

**Date Collected: 02/02/26 10:48**

**Matrix: Water**

**Date Received: 02/04/26 09:22**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			204366	XTD8	EA POM	02/09/26 06:54
Total/NA	Analysis	533		1	204503	M7ML	EA POM	02/09/26 19:24
Total/NA	Prep	537.1 DW			204090	N8NE	EA POM	02/06/26 15:29
Total/NA	Analysis	EPA 537.1 V2		1	204365	M7ML	EA POM	02/09/26 09:33

**Laboratory References:**

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

# Accreditation/Certification Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

## Laboratory: Eurofins Pomona

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

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

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

# Method Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

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

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

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



# Sample Summary

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

Job ID: 380-196030-1  
SDG: PFAS: Halawa Wells Units 1&2 P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-196030-1	HALAWA WELLS UNITS 1 & 2 P1 (331-206-TP065)	Drinking Water	02/02/26 10:48	02/04/26 09:22	HI0000331
380-196030-2	FB HALAWA WELLS UNITS 1 & 2 (331-206-TP065)	Water	02/02/26 10:48	02/04/26 09:22	HI0000331

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**Monrovia, CA (Suite 100)**  
 750 Royal Oaks Drive Suite 100  
 Monrovia, CA 91016  
 Phone (626) 386-1100

# Chain of Custody Record



<b>Client Information</b>		Lab PM: Lopez, Maria	Carrier Tracking No(s):
Client Contact: bailey		E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:
Phone: +1 808 748 5840		PWSID:	Page 1 of 1
City & County of Honolulu		Due Date Requested:	Job #:
Address: 630 South Beretania Street, Chemistry Lab		TAT Requested (days):	<b>Analysis Requested</b> 80168_DRP_LL_CS - HNL Ranges - C10-C24/C24-C38/C8-C18 80168_GRO_LL - (MOD) GRO SUBCONTRACT - 826 PAH Physia LL (EAL) + TICs Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 80168_DW_PREC - 837.1 Full List 826.2_PREC - (MOD) 826plus PLUS TICs 837.1_DW_PREC - 837.1 Full List 833 - All Analytes
City: Honolulu		Compliance Project: Δ No	
State, Zip: HI, 96843		PO #: C20525101 exp 05312023	
Phone: 808-748-5840 (tel)		WO #:	
Email: kiwanoto@hbws.org		Project #: 38001111	
Site: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		SSOW#:	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trozma Z - other (specify) Other:
Sample Identification		Sample Date	
Halawa Wells Units 1&2 P1		2-Feb-2026	
Sample Type (C=Comp, G=grab)		1048 G	
Matrix (Inventor, Smoked, Commercial, Environmental, etc.)		Water	
Sample Time		1048	Special Instructions/Note:  380-196030 COC
Possible Hazard Identification		Sample Date	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		2-Feb-2026	
Deliverable Requested: I, II, III, IV, Other (specify)		1048	
Empty Kit Relinquished by		1048	
Date/Time: 02/20/2026 1400		Date/Time: 2-21-2026	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:
Date/Time: 02/20/2026 1400		Date/Time: 2-21-2026	
Date/Time: 02/20/2026 1400		Date/Time: 2-21-2026	
Date/Time: 02/20/2026 1400		Date/Time: 2-21-2026	
Date/Time: 02/20/2026 1400		Date/Time: 2-21-2026	
Relinquished by		Date/Time: 02/20/2026 1400	Method of Shipment: 88845487-5368/58741542 Received by: Company HBWS Received by: Company Received by: Company Cooler Temperature(s) °C and Other Remarks: 60A/5.5-2.5 Custody Seal No. Δ Yes Δ No
Custody Seals Intact: Δ Yes Δ No		Date/Time: 02/20/2026 1400	
Custody Seal No. Δ Yes Δ No		Date/Time: 02/20/2026 1400	
Custody Seal No. Δ Yes Δ No		Date/Time: 02/20/2026 1400	
Custody Seal No. Δ Yes Δ No		Date/Time: 02/20/2026 1400	



## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-196030-1  
SDG Number: PFAS: Halawa Wells Units 1&2 P1

**Login Number: 196030**

**List Number: 1**

**Creator: Ngo, Theodore**

**List Source: Eurofins Pomona**

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
ClO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

