

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells P1

JOB NUMBER

380-236625-1

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Job Notes

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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: 380-236625-1
SDG: PFAS: Halawa Wells 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: 380-236625-1

Job ID: 380-236625-1

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Job Narrative 380-236625-1

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

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

Receipt

The samples were received on 9/16/2026 9:47 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.9°C.

PFAS

Method 533: PFAS results by 533 for HALAWA WELLS P1 (331-023-WL065) (380-236625-1) collected on 09/14/26 are a resample for HALAWA WELLS P1 (331-023-WL065) (380-235718-1) collected on 09/08/26. (XWB4)

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. (XWB4)

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

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Detection Summary

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	2.8		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	3.1		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 P1 (331-023-WL065)

Lab Sample ID: 380-236625-2

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-1

Date Collected: 09/14/26 10:19

Matrix: Drinking Water

Date Received: 09/16/26 09:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorohexanoic acid (PFHxA)	2.8		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoropentanoic acid (PFPeA)	3.5		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 21:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	111		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C6 PFDA	127		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C5 PFHxA	108		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C4 PFHpA	106		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C8 PFOA	106		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C9 PFNA	121		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C7 PFUnA	121		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C2 PFDoA	112		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C4 PFBA	114		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C5 PFPeA	121		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C3 PFBS	102		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C3 PFHxS	95		50 - 200	09/16/26 17:35	09/17/26 21:55	1

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Client Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-1

Date Collected: 09/14/26 10:19

Matrix: Drinking Water

Date Received: 09/16/26 09:47

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	111		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C2-4:2-FTS	81		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C2-6:2-FTS	85		50 - 200	09/16/26 17:35	09/17/26 21:55	1
13C2-8:2-FTS	115		50 - 200	09/16/26 17:35	09/17/26 21:55	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorooctanesulfonic acid (PFOS)	2.9		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorohexanoic acid (PFHxA)	3.1		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorohexanesulfonic acid (PFHxS)	2.9		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	107		70 - 130	09/17/26 17:25	09/18/26 13:49	1
13C2 PFHxA	104		70 - 130	09/17/26 17:25	09/18/26 13:49	1
13C2 PFDA	112		70 - 130	09/17/26 17:25	09/18/26 13:49	1
13C3-GenX	101		70 - 130	09/17/26 17:25	09/18/26 13:49	1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-2

Date Collected: 09/14/26 10:19

Matrix: Water

Date Received: 09/16/26 09:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1

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Client Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-2

Date Collected: 09/14/26 10:19

Matrix: Water

Date Received: 09/16/26 09:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/16/26 17:35	09/17/26 22:09	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C6 PFDA	126		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C5 PFHxA	107		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C4 PFHpA	108		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C8 PFOA	105		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C9 PFNA	121		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C7 PFUnA	119		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C2 PFDoA	116		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C4 PFBA	107		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C5 PFPeA	117		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C3 PFBS	96		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C3 PFHxS	101		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C8 PFOS	110		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C2-4:2-FTS	81		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C2-6:2-FTS	84		50 - 200			09/16/26 17:35	09/17/26 22:09	1
13C2-8:2-FTS	120		50 - 200			09/16/26 17:35	09/17/26 22:09	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-2

Date Collected: 09/14/26 10:19

Matrix: Water

Date Received: 09/16/26 09:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/17/26 17:25	09/18/26 13:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130			09/17/26 17:25	09/18/26 13:58	1
13C2 PFHxA	108		70 - 130			09/17/26 17:25	09/18/26 13:58	1
13C2 PFDA	116		70 - 130			09/17/26 17:25	09/18/26 13:58	1
13C3-GenX	105		70 - 130			09/17/26 17:25	09/18/26 13:58	1

Action Limit Summary

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		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)	2.9		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 P1 (331-023-WL065)

Lab Sample ID: 380-236625-2

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells 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)
380-236625-1	HALAWA WELLS P1 (331-023-V)	107	104	112	101
Surrogate Legend					
d5NEFOS = d5-NEtFOSAA					
PFHxA = 13C2 PFHxA					
PFDA = 13C2 PFDA					
GenX = 13C3-GenX					

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-236625-2	FB: HALAWA WELLS P1 (331-0	106	108	116	105
380-236635-B-1-A MS	Matrix Spike	105	103	100	102
380-236635-C-1-A MSD	Matrix Spike Duplicate	103	98	110	100
LCS 380-253223/22-A	Lab Control Sample	100	100	117	97
MBL 380-253223/20-A	Method Blank	98	100	110	89
MRL 380-253223/21-A	Lab Control Sample	98	100	101	86
Surrogate Legend					
d5NEFOS = d5-NEtFOSAA					
PFHxA = 13C2 PFHxA					
PFDA = 13C2 PFDA					
GenX = 13C3-GenX					

Isotope Dilution Summary

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells 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)	PFDaA (50-200)
380-236625-1	HALAWA WELLS P1 (331-023-V	111	127	108	106	106	121	121	112

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)
380-236625-1	HALAWA WELLS P1 (331-023-V	114	121	102	95	111	81	85	115

Surrogate Legend

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

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-236570-B-17-A MS	Matrix Spike	104	123	102	105	105	114	115	107
380-236570-C-17-A MSD	Matrix Spike Duplicate	109	123	103	107	107	118	119	115
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	108	126	107	108	105	121	119	116
LCS 380-252995/22-A	Lab Control Sample	107	121	107	107	105	121	115	115
MBL 380-252995/20-A	Method Blank	100	111	99	104	103	112	114	109
MRL 380-252995/21-A	Lab Control Sample	103	121	103	108	103	119	115	115

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)
380-236570-B-17-A MS	Matrix Spike	107	114	98	96	109	84	84	113
380-236570-C-17-A MSD	Matrix Spike Duplicate	111	118	105	105	114	89	86	122
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	107	117	96	101	110	81	84	120
LCS 380-252995/22-A	Lab Control Sample	109	111	97	97	108	86	85	114
MBL 380-252995/20-A	Method Blank	108	117	102	100	109	87	91	116
MRL 380-252995/21-A	Lab Control Sample	108	115	100	97	110	80	84	112

Surrogate Legend

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

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Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

Job ID: 380-236625-1

SDG: PFAS: Halawa Wells P1

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

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-252995/20-A

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252995

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.24		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		09/16/26 17:35	09/17/26 16:57	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C6 PFDA	111		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C5 PFHxA	99		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C4 PFHpA	104		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C8 PFOA	103		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C9 PFNA	112		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C7 PFUnA	114		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C2 PFDoA	109		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C4 PFBA	108		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C5 PFPeA	117		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C3 PFBS	102		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C3 PFHxS	100		50 - 200	09/16/26 17:35	09/17/26 16:57	1

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-252995/20-A

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252995

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	109		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C2-4:2-FTS	87		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C2-6:2-FTS	91		50 - 200	09/16/26 17:35	09/17/26 16:57	1
13C2-8:2-FTS	116		50 - 200	09/16/26 17:35	09/17/26 16:57	1

Lab Sample ID: LCS 380-252995/22-A

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	59.1	51.9		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	59.1	55.5		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.1	57.7		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.1	55.9		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.1	58.2		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	59.1	55.0		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDaA)	59.1	55.6		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.1	55.7		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.1	55.7		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	59.1	54.0		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	59.1	55.5		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.1	55.5		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	59.1	59.6		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.1	56.8		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	55.9		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	60.0		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	52.8		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	62.3		ng/L		106	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	53.0		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	59.1	56.7		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	57.7		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	59.5		ng/L		101	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	57.3		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	53.3		ng/L		90	70 - 130

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: LCS 380-252995/22-A

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	59.1	54.5		ng/L		92	70 - 130
Isotope Dilution							
	LCS	LCS					
	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	107		50 - 200				
13C6 PFDA	121		50 - 200				
13C5 PFHxA	107		50 - 200				
13C4 PFHpA	107		50 - 200				
13C8 PFOA	105		50 - 200				
13C9 PFNA	121		50 - 200				
13C7 PFUnA	115		50 - 200				
13C2 PFDoA	115		50 - 200				
13C4 PFBA	109		50 - 200				
13C5 PFPeA	111		50 - 200				
13C3 PFBS	97		50 - 200				
13C3 PFHxS	97		50 - 200				
13C8 PFOS	108		50 - 200				
13C2-4:2-FTS	86		50 - 200				
13C2-6:2-FTS	85		50 - 200				
13C2-8:2-FTS	114		50 - 200				

Lab Sample ID: MRL 380-252995/21-A

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	2.07	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	1.97	2.07	J	ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	2.09	J	ng/L		106	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	2.17	J	ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.96	J	ng/L		99	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	1.99	J	ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.10	J	ng/L		107	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.18	J	ng/L		111	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.15	J	ng/L		109	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.20	J	ng/L		112	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.08	J	ng/L		106	50 - 150

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-252995/21-A

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.33	J	ng/L		119	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.22	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.25	J	ng/L		114	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.15	J	ng/L		109	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.97	J	ng/L		100	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.02	J	ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.93	J	ng/L		98	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.92	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	121		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	119		50 - 200
13C7 PFUnA	115		50 - 200
13C2 PFDoA	115		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	115		50 - 200
13C3 PFBS	100		50 - 200
13C3 PFHxS	97		50 - 200
13C8 PFOS	110		50 - 200
13C2-4:2-FTS	80		50 - 200
13C2-6:2-FTS	84		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-236570-B-17-A MS

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.1	50.6		ng/L		86	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.1	53.2		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.1	59.7		ng/L		101	70 - 130

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-236570-B-17-A MS

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		59.1	56.7		ng/L		96	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.1	56.0		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		59.1	51.4		ng/L		87	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		59.1	57.0		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		59.1	55.8		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.1	57.2		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		59.1	57.0		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		59.1	57.7		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.1	53.7		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		59.1	55.7		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		59.1	55.5		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	15		59.1	69.3		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.1	59.8		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.1	56.6		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.1	55.0		ng/L		93	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		59.1	56.6		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		59.1	54.7		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.1	54.3		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.1	54.4		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		59.1	56.8		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.1	51.0		ng/L		86	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.1	54.5		ng/L		92	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	104		50 - 200
13C6 PFDA	123		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	115		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	98		50 - 200
13C3 PFHxS	96		50 - 200
13C8 PFOS	109		50 - 200

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-236570-B-17-A MS

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252995

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	84		50 - 200
13C2-6:2-FTS	84		50 - 200
13C2-8:2-FTS	113		50 - 200

Lab Sample ID: 380-236570-C-17-A MSD

Matrix: Water

Analysis Batch: 253080

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 252995

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.1	51.0		ng/L		86	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		59.1	54.7		ng/L		93	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.1	57.3		ng/L		97	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.1	55.1		ng/L		93	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.1	56.1		ng/L		93	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		59.1	53.9		ng/L		91	70 - 130	5	30
Perfluorododecanoic acid (PFDaA)	<2.0		59.1	53.7		ng/L		91	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		59.1	55.6		ng/L		94	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.1	52.3		ng/L		88	70 - 130	9	30
Perfluorohexanoic acid (PFHxA)	<2.0		59.1	56.8		ng/L		95	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		59.1	55.1		ng/L		93	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.1	54.2		ng/L		91	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		59.1	55.6		ng/L		94	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.1	56.0		ng/L		95	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	15		59.1	68.8		ng/L		92	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.1	59.4		ng/L		101	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.1	56.1		ng/L		95	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.1	58.3		ng/L		99	70 - 130	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.1	55.6		ng/L		94	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		59.1	53.4		ng/L		90	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.1	54.4		ng/L		92	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.1	54.7		ng/L		93	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		59.1	55.5		ng/L		91	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.1	49.9		ng/L		85	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.1	52.7		ng/L		89	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	123		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	118		50 - 200
13C7 PFUnA	119		50 - 200
13C2 PFDoA	115		50 - 200
13C4 PFBA	111		50 - 200
13C5 PFPeA	118		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	114		50 - 200
13C2-4:2-FTS	89		50 - 200
13C2-6:2-FTS	86		50 - 200
13C2-8:2-FTS	122		50 - 200

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

Lab Sample ID: MBL 380-253223/20-A
Matrix: Water
Analysis Batch: 253357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253223

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/17/26 17:25	09/18/26 12:23	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		70 - 130			09/17/26 17:25	09/18/26 12:23	1
13C2 PFHxA	100		70 - 130			09/17/26 17:25	09/18/26 12:23	1
13C2 PFDA	110		70 - 130			09/17/26 17:25	09/18/26 12:23	1

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QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-253223/20-A

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253223

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	89		70 - 130	09/17/26 17:25	09/18/26 12:23	1

Lab Sample ID: LCS 380-253223/22-A

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253223

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	49.0	41.0		ng/L		84	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	49.0	47.1		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	49.0	48.4		ng/L		99	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	49.0	46.0		ng/L		94	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	49.0	44.7		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	49.0	47.5		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	49.0	48.7		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	49.0	47.4		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	49.0	51.8		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	49.0	47.7		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	49.0	46.6		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	49.0	47.4		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	49.0	49.2		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	49.0	50.8		ng/L		104	70 - 130
Perfluorotridecanoic acid (PFTrDA)	49.0	47.7		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.0	47.3		ng/L		96	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.0	46.2		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.0	44.9		ng/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	100		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	117		70 - 130
13C3-GenX	97		70 - 130

QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-253223/21-A

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253223

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.96	1.76	J	ng/L		90	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.96	2.11	J	ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.05	J	ng/L		105	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	1.90	J	ng/L		97	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.89	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.91	J	ng/L		97	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	2.12	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	1.79	J	ng/L		91	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	1.95	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.01	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	2.09	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	2.02	J	ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.09	J	ng/L		107	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	2.01	J	ng/L		102	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	1.93	J	ng/L		98	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	1.97	J	ng/L		101	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	1.89	J	ng/L		96	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	1.87	J	ng/L		96	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	86		70 - 130

Lab Sample ID: 380-236635-B-1-A MS

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 253223

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		49.2	46.0		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		49.2	51.6		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		49.2	49.2		ng/L		100	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.2	48.4		ng/L		98	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-236635-B-1-A MS

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 253223

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits		
	Result	Qualifier	Added	Result	Qualifier							
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		49.2	48.3		ng/L		98	70 - 130			
Perfluorohexanoic acid (PFHxA)	<2.0		49.2	50.7		ng/L		100	70 - 130			
Perfluorododecanoic acid (PFDoA)	<2.0		49.2	50.4		ng/L		102	70 - 130			
Perfluorooctanoic acid (PFOA)	<2.0		49.2	49.3		ng/L		98	70 - 130			
Perfluorodecanoic acid (PFDA)	<2.0		49.2	49.3		ng/L		100	70 - 130			
Perfluorohexanesulfonic acid (PFHxS)	<2.0		49.2	51.8		ng/L		102	70 - 130			
Perfluorobutanesulfonic acid (PFBS)	<2.0		49.2	51.0		ng/L		102	70 - 130			
Perfluoroheptanoic acid (PFHpA)	<2.0		49.2	48.9		ng/L		98	70 - 130			
Perfluorononanoic acid (PFNA)	<2.0		49.2	50.2		ng/L		102	70 - 130			
Perfluorotetradecanoic acid (PFTA)	<2.0		49.2	48.9		ng/L		99	70 - 130			
Perfluorotridecanoic acid (PFTrDA)	<2.0		49.2	48.5		ng/L		99	70 - 130			
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.2	49.8		ng/L		101	70 - 130			
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.2	49.2		ng/L		100	70 - 130			
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.2	46.9		ng/L		95	70 - 130			
		MS	MS									
Surrogate	%Recovery	Qualifier	Limits									
d5-NEtFOSAA	105		70 - 130									
13C2 PFHxA	103		70 - 130									
13C2 PFDA	100		70 - 130									
13C3-GenX	102		70 - 130									

Lab Sample ID: 380-236635-C-1-A MSD

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 253223

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		49.1	45.9		ng/L		93	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		49.1	52.0		ng/L		103	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		49.1	47.2		ng/L		96	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		49.1	49.0		ng/L		100	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		49.1	48.4		ng/L		99	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		49.1	49.4		ng/L		98	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		49.1	49.1		ng/L		100	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		49.1	49.1		ng/L		98	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		49.1	52.3		ng/L		106	70 - 130	6	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-236635-C-1-A MSD

Matrix: Water

Analysis Batch: 253357

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 253223

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		49.1	51.0		ng/L		100	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		49.1	50.8		ng/L		102	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		49.1	48.7		ng/L		98	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		49.1	48.8		ng/L		99	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		49.1	45.4		ng/L		93	70 - 130	7	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		49.1	46.6		ng/L		95	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		49.1	49.5		ng/L		101	70 - 130	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		49.1	48.0		ng/L		98	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		49.1	47.7		ng/L		97	70 - 130	2	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	103		70 - 130
13C2 PFHxA	98		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	100		70 - 130

QC Association Summary

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

LCMS

Prep Batch: 252995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-236625-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	533	
MBL 380-252995/20-A	Method Blank	Total/NA	Water	533	
LCS 380-252995/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-252995/21-A	Lab Control Sample	Total/NA	Water	533	
380-236570-B-17-A MS	Matrix Spike	Total/NA	Water	533	
380-236570-C-17-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 253080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-236625-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	252995
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	533	252995
MBL 380-252995/20-A	Method Blank	Total/NA	Water	533	252995
LCS 380-252995/22-A	Lab Control Sample	Total/NA	Water	533	252995
MRL 380-252995/21-A	Lab Control Sample	Total/NA	Water	533	252995
380-236570-B-17-A MS	Matrix Spike	Total/NA	Water	533	252995
380-236570-C-17-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	252995

Prep Batch: 253223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-236625-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	537.1 DW	
MBL 380-253223/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-253223/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-253223/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-236635-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-236635-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 253357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-236625-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	253223
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	EPA 537.1 V2	253223
MBL 380-253223/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	253223
LCS 380-253223/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	253223
MRL 380-253223/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	253223
380-236635-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	253223
380-236635-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	253223

Lab Chronicle

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-1

Date Collected: 09/14/26 10:19

Matrix: Drinking Water

Date Received: 09/16/26 09:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			252995	E2HD	EA POM	09/16/26 17:35
Total/NA	Analysis	533		1	253080	UKDT	EA POM	09/17/26 21:55
Total/NA	Prep	537.1 DW			253223	E2HD	EA POM	09/17/26 17:25
Total/NA	Analysis	EPA 537.1 V2		1	253357	Y5FM	EA POM	09/18/26 13:49

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-236625-2

Date Collected: 09/14/26 10:19

Matrix: Water

Date Received: 09/16/26 09:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			252995	E2HD	EA POM	09/16/26 17:35
Total/NA	Analysis	533		1	253080	UKDT	EA POM	09/17/26 22:09
Total/NA	Prep	537.1 DW			253223	E2HD	EA POM	09/17/26 17:25
Total/NA	Analysis	EPA 537.1 V2		1	253357	Y5FM	EA POM	09/18/26 13:58

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: 380-236625-1
SDG: PFAS: Halawa Wells P1

Laboratory: Eurofins Pomona

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

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

- 1
- 2
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Method Summary

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

Job ID: 380-236625-1
SDG: PFAS: Halawa Wells 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: 380-236625-1
SDG: PFAS: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-236625-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	09/14/26 10:19	09/16/26 09:47	Hawaii
380-236625-2	FB: HALAWA WELLS P1 (331-023-WL065)	Water	09/14/26 10:19	09/16/26 09:47	Hawaii

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- 17



380-236625 COC

Client Information Client Contact: Kirk Iwamoto Phone: +1 808 748 5840		Lab PM: Lopez, Maria Email: Maria.Lopez@et.eurofinsus.com		Carrier Tracking No(s): State of Origin:		COC No: 380-236625	
City & County of Honolulu Address: 6330 South Beretania Street, Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		PWSID:		Analysis Requested			
Due Date Requested:		TAT Requested (days):		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Compliance Project: ☐ No ☐ Yes		PO #: C20525101 exp 05312023 WO #:		Total Number of containers:			
Sample Identification		Sample Date: 14-Sep-2026		Sample Time: 1019		Matrix (Residue, Specified, Quantified) Water	
Halawa Wells P1 (331-023-WL065)		Sample Type (C=comp, G=grab): G		Preservation Code:		Special Instructions/Note:	
FB: Halawa Wells P1 (331-023-WL065)		Sample Date: 14-Sep-2026		Sample Time: 1019		Matrix (Residue, Specified, Quantified) Water	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested: ☐ I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months			
Empty Kit Relinquished by:		Date: 15-Sep-2026		Method of Shipment: FedX		Date/Time: 9/16/26 947	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Custody Seals Intact: Yes ☐ No ☐		Relinquished by:		Date/Time:		Date/Time:	

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-236625-1
SDG Number: PFAS: Halawa Wells P1

Login Number: 236625

List Number: 1

Creator: Edrosa, Rey

List Source: Eurofins Pomona

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