

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

ANALYTICAL REPORT

PREPARED FOR

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

Generated 5/20/2026 4:21:11 PM

JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells P1

JOB NUMBER

380-212207-1

Eurofins Pomona

Job Notes

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

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

Compliance Statement

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

Authorization



Authorized for release by
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1100

Generated
5/20/2026 4:21:11 PM



Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Action Limit Summary	11
Surrogate Summary	12
Isotope Dilution Summary	13
QC Sample Results	15
QC Association Summary	32
Lab Chronicle	34
Certification Summary	35
Method Summary	36
Sample Summary	37
Chain of Custody	38
Receipt Checklists	39

Definitions/Glossary

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

Job ID: 380-212207-1
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: 380-212207-1

Job ID: 380-212207-1

Eurofins Pomona

Job Narrative 380-212207-1

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 5/6/2026 9:45 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 3.1°C.

PFAS

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: HALAWA WELLS P1 (331-023-WL065) (380-212207-1) .(XWB4)

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

Eurofins Pomona

Detection Summary

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)
PWSID Number: HI0000331

Lab Sample ID: 380-212207-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.3		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)	3.5		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)
PWSID Number: HI0000331

Lab Sample ID: 380-212207-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Pomona

Client Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212207-1

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorohexanoic acid (PFHxA)	3.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorooctanesulfonic acid (PFOS)	2.5		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoropentanoic acid (PFPeA)	4.3		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/13/26 05:44	05/13/26 19:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	103		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C6 PFDA	102		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C5 PFHxA	110		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C4 PFHpA	108		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C8 PFOA	113		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C9 PFNA	115		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C7 PFUnA	108		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C2 PFDoA	113		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C4 PFBA	105		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C5 PFPeA	101		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C3 PFBS	100		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C3 PFHxS	102		50 - 200	05/13/26 05:44	05/13/26 19:46	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212207-1

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	105		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C2-4:2-FTS	100		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C2-6:2-FTS	89		50 - 200	05/13/26 05:44	05/13/26 19:46	1
13C2-8:2-FTS	90		50 - 200	05/13/26 05:44	05/13/26 19:46	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		05/10/26 10:50	05/11/26 10:22	1
Perfluorooctanesulfonic acid (PFOS)	2.9		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorohexanoic acid (PFHxA)	3.5		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorooctanoic acid (PFOA)	2.1		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:22	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	97		70 - 130	05/10/26 10:50	05/11/26 10:22	1		
13C2 PFHxA	108		70 - 130	05/10/26 10:50	05/11/26 10:22	1		
13C2 PFDA	109		70 - 130	05/10/26 10:50	05/11/26 10:22	1		
13C3-GenX	108		70 - 130	05/10/26 10:50	05/11/26 10:22	1		

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

Lab Sample ID: 380-212207-2

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212207-2

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

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
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/15/26 06:23	05/15/26 19:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	68		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C6 PFDA	55		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C5 PFHxA	78		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C4 PFHpA	73		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C8 PFOA	70		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C9 PFNA	63		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C7 PFUnA	51		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C2 PFDoA	53		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C4 PFBA	76		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C5 PFPeA	72		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C3 PFBS	111		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C3 PFHxS	115		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C8 PFOS	109		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C2-4:2-FTS	119		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C2-6:2-FTS	104		50 - 200	05/15/26 06:23	05/15/26 19:27	1
13C2-8:2-FTS	90		50 - 200	05/15/26 06:23	05/15/26 19:27	1

Client Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212207-2

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

PWSID Number: HI0000331

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		05/10/26 10:50	05/11/26 10:31	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/10/26 10:50	05/11/26 10:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130			05/10/26 10:50	05/11/26 10:31	1
13C2 PFHxA	107		70 - 130			05/10/26 10:50	05/11/26 10:31	1
13C2 PFDA	109		70 - 130			05/10/26 10:50	05/11/26 10:31	1
13C3-GenX	105		70 - 130			05/10/26 10:50	05/11/26 10:31	1

Action Limit Summary

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212207-1

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.6		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	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)	2.1		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3		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: 380-212207-2

PWSID Number: HI0000331

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	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: 380-212207-1
 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)
380-212207-1	HALAWA WELLS P1 (331-023-V	97	108	109	108
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	99	107	109	105

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)
380-212302-B-1-A MS	Matrix Spike	105	105	111	112
380-212302-C-1-A MSD	Matrix Spike Duplicate	105	103	110	109
LCS 380-225988/23-A	Lab Control Sample	98	99	104	96
MBL 380-225988/21-A	Method Blank	116	117	117	114
MRL 380-225988/22-A	Lab Control Sample	97	105	110	99

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: 380-212207-1
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)	PFDoA (50-200)
380-212207-1	HALAWA WELLS P1 (331-023-V)	103	102	110	108	113	115	108	113
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	68	55	78	73	70	63	51	53

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)
380-212207-1	HALAWA WELLS P1 (331-023-V)	105	101	100	102	105	100	89	90
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	76	72	111	115	109	119	104	90

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 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

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)
380-211250-A-1-B MS	Matrix Spike	101	105	103	103	107	110	107	110
380-211250-A-1-C MSD	Matrix Spike Duplicate	103	105	102	107	106	111	103	111
380-212210-B-1-A MS	Matrix Spike	108	104	116	111	107	108	108	106
380-212210-C-1-A MSD	Matrix Spike Duplicate	110	101	117	113	109	107	107	111
LCS 380-226655/22-A	Lab Control Sample	106	108	107	104	110	112	107	114
LCS 380-227305/22-A	Lab Control Sample	100	98	110	103	102	100	100	101
MBL 380-226655/20-A	Method Blank	99	101	103	102	104	109	104	108
MBL 380-227305/20-A	Method Blank	91	100	103	100	100	100	100	107
MRL 380-226655/21-A	Lab Control Sample	108	113	112	111	121	121	114	120
MRL 380-227305/21-A	Lab Control Sample	86	90	96	96	94	91	94	97

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)
380-211250-A-1-B MS	Matrix Spike	103	107	97	103	102	96	88	88
380-211250-A-1-C MSD	Matrix Spike Duplicate	107	108	97	98	102	93	86	88
380-212210-B-1-A MS	Matrix Spike	109	109	110	117	111	106	104	94

Eurofins Pomona

Isotope Dilution Summary

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

Job ID: 380-212207-1
 SDG: PFAS: Halawa Wells P1

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

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-212210-C-1-A MSD	Matrix Spike Duplicate	109	107	115	116	111	109	103	94
LCS 380-226655/22-A	Lab Control Sample	111	107	100	106	110	93	87	89
LCS 380-227305/22-A	Lab Control Sample	89	101	109	114	103	108	98	88
MBL 380-226655/20-A	Method Blank	103	98	95	102	105	95	90	90
MBL 380-227305/20-A	Method Blank	95	99	120	115	115	121	107	97
MRL 380-226655/21-A	Lab Control Sample	115	112	106	109	115	101	96	93
MRL 380-227305/21-A	Lab Control Sample	73	90	116	117	112	111	100	90

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 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

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-226655/20-A
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 226655

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		05/13/26 05:44	05/13/26 15:55	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C6 PFDA	101		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C5 PFHxA	103		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C4 PFHpA	102		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C8 PFOA	104		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C9 PFNA	109		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C7 PFUnA	104		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C2 PFDoA	108		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C4 PFBA	103		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C5 PFPeA	98		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C3 PFBS	95		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C3 PFHxS	102		50 - 200	05/13/26 05:44	05/13/26 15:55	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-226655/20-A
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 226655

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	105		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C2-4:2-FTS	95		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C2-6:2-FTS	90		50 - 200	05/13/26 05:44	05/13/26 15:55	1
13C2-8:2-FTS	90		50 - 200	05/13/26 05:44	05/13/26 15:55	1

Lab Sample ID: LCS 380-226655/22-A
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 226655

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	102		ng/L		85	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	98.4		ng/L		82	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	116		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	110		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	112		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	120	107		ng/L		89	70 - 130
Perfluorododecanoic acid (PFDoA)	120	111		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	112		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	105		ng/L		87	70 - 130
Perfluorohexanoic acid (PFHxA)	120	105		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	120	109		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	108		ng/L		90	70 - 130
Perfluorooctanoic acid (PFOA)	120	106		ng/L		88	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	107		ng/L		89	70 - 130
Perfluorobutanoic acid (PFBA)	120	107		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	107		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	113		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	102		ng/L		85	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	113		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	106		ng/L		88	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	109		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	120	109		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	108		ng/L		90	70 - 130

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: LCS 380-226655/22-A
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 226655

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	103		ng/L		86	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	106		50 - 200				
13C6 PFDA	108		50 - 200				
13C5 PFHxA	107		50 - 200				
13C4 PFHpA	104		50 - 200				
13C8 PFOA	110		50 - 200				
13C9 PFNA	112		50 - 200				
13C7 PFUnA	107		50 - 200				
13C2 PFDoA	114		50 - 200				
13C4 PFBA	111		50 - 200				
13C5 PFPeA	107		50 - 200				
13C3 PFBS	100		50 - 200				
13C3 PFHxS	106		50 - 200				
13C8 PFOS	110		50 - 200				
13C2-4:2-FTS	93		50 - 200				
13C2-6:2-FTS	87		50 - 200				
13C2-8:2-FTS	89		50 - 200				

Lab Sample ID: MRL 380-226655/21-A
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 226655

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.71	J	ng/L		85	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.68	J	ng/L		84	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.00	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.87	J	ng/L		93	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.90	J	ng/L		95	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.87	J	ng/L		93	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.97	J	ng/L		98	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-226655/21-A
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 226655

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	1.97	J	ng/L		98	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.20	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.16	J	ng/L		108	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.77	J	ng/L		88	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.83	J	ng/L		91	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.88	J	ng/L		94	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	108		50 - 200
13C6 PFDA	113		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	121		50 - 200
13C9 PFNA	121		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	120		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	115		50 - 200
13C2-4:2-FTS	101		50 - 200
13C2-6:2-FTS	96		50 - 200
13C2-8:2-FTS	93		50 - 200

Lab Sample ID: 380-211250-A-1-B MS
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 226655

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	108		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	104		ng/L		86	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	121		ng/L		100	70 - 130

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-211250-A-1-B MS
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 226655

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		121	117		ng/L		97	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	4.8		121	116		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	113		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.8		121	122		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	4.0		121	112		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	7.1		121	116		ng/L		90	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.4		121	118		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	4.1		121	115		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	2.8		121	117		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	121		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	116		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	107		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	112		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	108		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	8.3		121	121		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	112		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	102		ng/L		84	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	101		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	97		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	102		50 - 200

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-211250-A-1-B MS
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 226655

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	96		50 - 200
13C2-6:2-FTS	88		50 - 200
13C2-8:2-FTS	88		50 - 200

Lab Sample ID: 380-211250-A-1-C MSD
Matrix: Water
Analysis Batch: 226814

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 226655

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	108		ng/L		89	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	105		ng/L		87	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	111		ng/L		92	70 - 130	8	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	110		ng/L		91	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	4.8		121	114		ng/L		91	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		121	110		ng/L		91	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	113		ng/L		94	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	2.8		121	110		ng/L		89	70 - 130	10	30
Perfluorohexanesulfonic acid (PFHxS)	4.0		121	116		ng/L		93	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	7.1		121	116		ng/L		90	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		121	113		ng/L		94	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	3.4		121	119		ng/L		96	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	4.1		121	116		ng/L		93	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	112		ng/L		93	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	2.8		121	113		ng/L		92	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	115		ng/L		95	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	115		ng/L		95	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	116		ng/L		96	70 - 130	0	30
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	110		ng/L		91	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	111		ng/L		92	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	113		ng/L		93	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	109		ng/L		90	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	8.3		121	121		ng/L		94	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	113		ng/L		94	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	110		ng/L		91	70 - 130	8	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

<i>Isotope Dilution</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	108		50 - 200
13C3 PFBS	97		50 - 200
13C3 PFHxS	98		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	93		50 - 200
13C2-6:2-FTS	86		50 - 200
13C2-8:2-FTS	88		50 - 200

Lab Sample ID: MBL 380-227305/20-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 227305

<i>Analyte</i>	<i>MBL</i>	<i>MBL</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>						
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-227305/20-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 227305

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		05/15/26 06:23	05/15/26 17:10	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C6 PFDA	100		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C5 PFHxA	103		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C4 PFHpA	100		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C8 PFOA	100		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C9 PFNA	100		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C7 PFUnA	100		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C2 PFDoA	107		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C4 PFBA	95		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C5 PFPeA	99		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C3 PFBS	120		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C3 PFHxS	115		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C8 PFOS	115		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C2-4:2-FTS	121		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C2-6:2-FTS	107		50 - 200	05/15/26 06:23	05/15/26 17:10	1
13C2-8:2-FTS	97		50 - 200	05/15/26 06:23	05/15/26 17:10	1

Lab Sample ID: LCS 380-227305/22-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.1	60.6		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.1	60.9		ng/L		101	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.1	58.1		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.1	61.4		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.1	59.5		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	60.1	59.3		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.1	59.5		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.1	58.7		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.1	56.7		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	60.1	55.3		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	60.1	60.4		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.1	59.4		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	60.1	58.9		ng/L		98	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: LCS 380-227305/22-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.1	56.0		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	60.1	57.9		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.1	61.7		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.1	59.5		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.1	58.9		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.1	57.0		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.1	59.2		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.1	65.6		ng/L		109	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.1	58.2		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	60.1	59.0		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.1	60.5		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.1	55.8		ng/L		93	70 - 130

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	102		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	100		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	89		50 - 200
13C5 PFPeA	101		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	108		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	88		50 - 200

Lab Sample ID: MRL 380-227305/21-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.10	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.99	J	ng/L		99	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-227305/21-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.93	J	ng/L		96	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.18	J	ng/L		109	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.15	J	ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.91	J	ng/L		96	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.01	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.27	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.33	J	ng/L		116	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.44	J	ng/L		122	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.15	J	ng/L		107	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.57	J	ng/L		128	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.85	J	ng/L		92	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.08	J	ng/L		104	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	86		50 - 200
13C6 PFDA	90		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	94		50 - 200
13C9 PFNA	91		50 - 200
13C7 PFUnA	94		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	73		50 - 200
13C5 PFPeA	90		50 - 200
13C3 PFBS	116		50 - 200
13C3 PFHxS	117		50 - 200

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-227305/21-A
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227305

<i>Isotope Dilution</i>	<i>MRL %Recovery</i>	<i>MRL Qualifier</i>	<i>Limits</i>
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	111		50 - 200
13C2-6:2-FTS	100		50 - 200
13C2-8:2-FTS	90		50 - 200

Lab Sample ID: 380-212210-B-1-A MS
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 227305

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		60.2	58.4		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	57.8		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.1		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	61.4		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	59.8		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	56.6		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	57.9		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	57.6		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	58.0		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	55.6		ng/L		90	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	57.7		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	58.2		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	56.7		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	54.4		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	59.8		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	61.7		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	64.1		ng/L		106	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	58.9		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	58.6		ng/L		97	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	59.7		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	56.7		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	60.7		ng/L		101	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	59.1		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	57.6		ng/L		96	70 - 130

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212210-B-1-A MS
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	53.9		ng/L		89	70 - 130
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	108		50 - 200						
13C6 PFDA	104		50 - 200						
13C5 PFHxA	116		50 - 200						
13C4 PFHpA	111		50 - 200						
13C8 PFOA	107		50 - 200						
13C9 PFNA	108		50 - 200						
13C7 PFUnA	108		50 - 200						
13C2 PFDoA	106		50 - 200						
13C4 PFBA	109		50 - 200						
13C5 PFPeA	109		50 - 200						
13C3 PFBS	110		50 - 200						
13C3 PFHxS	117		50 - 200						
13C8 PFOS	111		50 - 200						
13C2-4:2-FTS	106		50 - 200						
13C2-6:2-FTS	104		50 - 200						
13C2-8:2-FTS	94		50 - 200						

Lab Sample ID: 380-212210-C-1-A MSD
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	58.4		ng/L		97	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	55.6		ng/L		92	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.6		ng/L		97	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	60.3		ng/L		100	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	58.8		ng/L		97	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	59.0		ng/L		98	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	55.8		ng/L		93	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	58.0		ng/L		95	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	59.4		ng/L		96	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	57.7		ng/L		94	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	56.5		ng/L		94	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	59.6		ng/L		96	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	58.6		ng/L		96	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	54.3		ng/L		90	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	58.7		ng/L		95	70 - 130	2	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212210-C-1-A MSD
Matrix: Water
Analysis Batch: 227473

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 227305

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	58.7		ng/L		97	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	63.6		ng/L		106	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	60.3		ng/L		100	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	56.6		ng/L		94	70 - 130	3	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	59.9		ng/L		99	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	55.9		ng/L		93	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.4		ng/L		99	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	59.1		ng/L		96	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	57.8		ng/L		96	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	55.7		ng/L		92	70 - 130	3	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C3 HFPO-DA	110		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	117		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	116		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	103		50 - 200
13C2-8:2-FTS	94		50 - 200

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

Lab Sample ID: MBL 380-225988/21-A
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 225988

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-225988/21-A
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 225988

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/10/26 10:50	05/11/26 09:16	1
Surrogate	MBL	MBL	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	116		70 - 130			05/10/26 10:50	05/11/26 09:16	1
13C2 PFHxA	117		70 - 130			05/10/26 10:50	05/11/26 09:16	1
13C2 PFDA	117		70 - 130			05/10/26 10:50	05/11/26 09:16	1
13C3-GenX	114		70 - 130			05/10/26 10:50	05/11/26 09:16	1

Lab Sample ID: LCS 380-225988/23-A
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225988

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	25.0	27.1		ng/L		108	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	27.3		ng/L		109	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	24.3		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	24.2		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	24.4		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	25.7		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	25.5		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	24.6		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	27.4		ng/L		110	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	27.3		ng/L		109	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	26.0		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	25.0	27.3		ng/L		109	70 - 130

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: LCS 380-225988/23-A
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225988

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTA)	25.0	24.8		ng/L		99	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	26.4		ng/L		106	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	26.4		ng/L		106	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	24.8		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	23.3		ng/L		93	70 - 130
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
d5-NEtFOSAA	98		70 - 130				
13C2 PFHxA	99		70 - 130				
13C2 PFDA	104		70 - 130				
13C3-GenX	96		70 - 130				

Lab Sample ID: MRL 380-225988/22-A
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225988

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.01	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.20	J	ng/L		110	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.20	J	ng/L		110	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.91	J	ng/L		96	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.76	J	ng/L		88	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.11	J	ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.25	J	ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.28	J	ng/L		114	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.05	J	ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.22	J	ng/L		111	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.10	J	ng/L		105	50 - 150

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-225988/22-A
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 225988

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.86	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.10	J	ng/L		105	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	97		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	99		70 - 130

Lab Sample ID: 380-212302-B-1-A MS
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225988

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	27.2		ng/L		109	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.5		25.1	28.0		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	28.2		ng/L		112	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	25.3		ng/L		101	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	24.7		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	3.3		25.1	29.2		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	26.6		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	2.9		25.1	30.4		ng/L		110	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	26.3		ng/L		105	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	27.7		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.5		25.1	29.3		ng/L		107	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	28.4		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.0		ng/L		108	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	24.9		ng/L		99	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	26.9		ng/L		107	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.4		ng/L		106	70 - 130
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	24.5		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	27.4		ng/L		109	70 - 130

QC Sample Results

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212302-B-1-A MS
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 225988

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	105		70 - 130
13C2 PFHxA	105		70 - 130
13C2 PFDA	111		70 - 130
13C3-GenX	112		70 - 130

Lab Sample ID: 380-212302-C-1-A MSD
Matrix: Water
Analysis Batch: 226117

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 225988

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.5		ng/L		102	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	2.5		25.1	28.6		ng/L		104	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	26.9		ng/L		107	70 - 130	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.8		ng/L		99	70 - 130	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	24.2		ng/L		97	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	3.3		25.1	29.8		ng/L		106	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.1		ng/L		108	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	2.9		25.1	29.6		ng/L		106	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	24.7		ng/L		98	70 - 130	7	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	27.5		ng/L		103	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	2.5		25.1	28.9		ng/L		105	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.5		ng/L		103	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.9		ng/L		104	70 - 130	4	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	23.6		ng/L		94	70 - 130	5	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	26.6		ng/L		106	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	25.4		ng/L		101	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	24.6		ng/L		98	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	26.4		ng/L		105	70 - 130	4	30

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	105		70 - 130
13C2 PFHxA	103		70 - 130
13C2 PFDA	110		70 - 130
13C3-GenX	109		70 - 130

QC Association Summary

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

LCMS

Prep Batch: 225988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212207-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
MBL 380-225988/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-225988/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-225988/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-212302-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-212302-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 226117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212207-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	225988
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	225988
MBL 380-225988/21-A	Method Blank	Total/NA	Water	EPA 537.1 V2	225988
LCS 380-225988/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	225988
MRL 380-225988/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	225988
380-212302-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	225988
380-212302-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	225988

Prep Batch: 226655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212207-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
MBL 380-226655/20-A	Method Blank	Total/NA	Water	533	
LCS 380-226655/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-226655/21-A	Lab Control Sample	Total/NA	Water	533	
380-211250-A-1-B MS	Matrix Spike	Total/NA	Water	533	
380-211250-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 226814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212207-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	226655
MBL 380-226655/20-A	Method Blank	Total/NA	Water	533	226655
LCS 380-226655/22-A	Lab Control Sample	Total/NA	Water	533	226655
MRL 380-226655/21-A	Lab Control Sample	Total/NA	Water	533	226655
380-211250-A-1-B MS	Matrix Spike	Total/NA	Water	533	226655
380-211250-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	226655

Prep Batch: 227305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
MBL 380-227305/20-A	Method Blank	Total/NA	Water	533	
LCS 380-227305/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-227305/21-A	Lab Control Sample	Total/NA	Water	533	
380-212210-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-212210-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 227473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	227305
MBL 380-227305/20-A	Method Blank	Total/NA	Water	533	227305
LCS 380-227305/22-A	Lab Control Sample	Total/NA	Water	533	227305
MRL 380-227305/21-A	Lab Control Sample	Total/NA	Water	533	227305

QC Association Summary

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

Job ID: 380-212207-1
SDG: PFAS: Halawa Wells P1

LCMS (Continued)

Analysis Batch: 227473 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-212210-B-1-A MS	Matrix Spike	Total/NA	Water	533	227305
380-212210-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	227305

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

Lab Chronicle

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

Job ID: 380-212207-1
 SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-212207-1

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			226655	XTD8	EA POM	05/13/26 05:44
Total/NA	Analysis	533		1	226814	Y5FM	EA POM	05/13/26 19:46
Total/NA	Prep	537.1 DW			225988	E9PK	EA POM	05/10/26 10:50
Total/NA	Analysis	EPA 537.1 V2		1	226117	SZ9R	EA POM	05/11/26 10:22

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

Lab Sample ID: 380-212207-2

Date Collected: 05/04/26 10:39

Matrix: Drinking Water

Date Received: 05/06/26 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			227305	XTD8	EA POM	05/15/26 06:23
Total/NA	Analysis	533		1	227473	Y5FM	EA POM	05/15/26 19:27
Total/NA	Prep	537.1 DW			225988	E9PK	EA POM	05/10/26 10:50
Total/NA	Analysis	EPA 537.1 V2		1	226117	SZ9R	EA POM	05/11/26 10:31

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: 380-212207-1
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	01-31-26 *

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

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

Method Summary

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

Job ID: 380-212207-1
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: 380-212207-1
SDG: PFAS: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-212207-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	05/04/26 10:39	05/06/26 09:45	HI0000331
380-212207-2	FB: HALAWA WELLS P1 (331-023-WL065)	Drinking Water	05/04/26 10:39	05/06/26 09:45	HI0000331

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-212207-1
SDG Number: PFAS: Halawa Wells P1

Login Number: 212207

List Number: 1

Creator: Del Rosario, Michael

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).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

