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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells P1

JOB NUMBER

380-209881-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

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

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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-209881-1
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

Job Narrative
380-209881-1

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

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

Receipt
The samples were received on 4/22/2026 10:22 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 3.7°C.

PFAS
Method EPA 537.1 V2: Surrogate 13C2 PFHxA and 13C3-GenX recovery for the following sample was outside control limits: FB: HALAWA WELLS P1 (331-023-WL065) (380-209881-2). Insufficient volume for re-extraction, result not acceptable per method. Analysis of method EPA 537.1 was excluded due to this QC failure as the native sample contained PFAS detections at or above the method reporting limit. The sample is collected weekly thus follow up samples was collected on 04/27/26 under job # 380-210974-1. Analysis by EPA 537.1 is currently in progress. (XWB4)

HALAWA WELLS P1 (331-023-WL065) (380-209881-1), FB: HALAWA WELLS P1 (331-023-WL065) (380-209881-2)

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

Detection Summary

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)
Lab Sample ID: 380-209881-1
PWSID Number: HI0000331

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)	3.1		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0		ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.9		2.0		ng/L	1		533	Total/NA

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)
Lab Sample ID: 380-209881-2
PWSID Number: HI0000331

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)
Date Collected: 04/20/26 11:01
Date Received: 04/22/26 10:22

Lab Sample ID: 380-209881-1
Matrix: Drinking Water
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorohexanesulfonic acid (PFHxS)	**2.6**		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorohexanoic acid (PFHxA)	**3.1**		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoropentanoic acid (PFPeA)	**3.9**		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		04/27/26 07:29	04/28/26 09:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C6 PFDA	*98*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C5 PFHxA	*99*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C4 PFHpA	*105*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C8 PFOA	*102*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C9 PFNA	*102*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C7 PFUnA	*94*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C2 PFDoA	*98*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C4 PFBA	*103*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C5 PFPeA	*102*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C3 PFBS	*108*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C3 PFHxS	*109*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*

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

Lab Sample ID: 380-209881-1
Date Collected: 04/20/26 11:01
Matrix: Drinking Water
Date Received: 04/22/26 10:22
PWSID Number: HI0000331

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*104*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C2-4:2-FTS	*99*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C2-6:2-FTS	*90*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*
13C2-8:2-FTS	*84*		*50 - 200*	*04/27/26 07:29*	*04/28/26 09:43*	*1*

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

Lab Sample ID: 380-209881-2
Date Collected: 04/20/26 11:01
Matrix: Water
Date Received: 04/22/26 10:22
PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		04/26/26 14:57	04/27/26 19:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*50 - 200*	*04/26/26 14:57*	*04/27/26 19:34*	*1*
13C6 PFDA	*83*		*50 - 200*	*04/26/26 14:57*	*04/27/26 19:34*	*1*
13C5 PFHxA	*95*		*50 - 200*	*04/26/26 14:57*	*04/27/26 19:34*	*1*

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)
Date Collected: 04/20/26 11:01
Date Received: 04/22/26 10:22

Lab Sample ID: 380-209881-2
Matrix: Water
PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	93		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C8 PFOA	91		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C9 PFNA	91		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C7 PFUnA	80		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C2 PFDoA	78		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C4 PFBA	100		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C5 PFPeA	95		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C3 PFBS	91		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C3 PFHxS	92		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C8 PFOS	89		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C2-4:2-FTS	92		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C2-6:2-FTS	83		50 - 200	04/26/26 14:57	04/27/26 19:34	1
13C2-8:2-FTS	71		50 - 200	04/26/26 14:57	04/27/26 19:34	1

Action Limit Summary

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-209881-1

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 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)	2.6		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA

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

Lab Sample ID: 380-209881-2

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 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

Surrogate Summary

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

Job ID: 380-209881-1
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

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-209881-1	HALAWA WELLS P1 (331-023-V	110	105	109	111

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

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-209878-E-1-A MS	Matrix Spike	98	112	111	109
380-209878-F-1-A MSD	Matrix Spike Duplicate	103	107	102	102
380-209881-2	FB: HALAWA WELLS P1 (331-023-WL065)	84	68 S1-	72	62 S1-
LCS 380-222326/21-A	Lab Control Sample	97	105	102	97
MBL 380-222326/19-A	Method Blank	109	122	116	111
MRL 380-222326/20-A	Lab Control Sample	102	105	104	96

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: 380-209881-1
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)
380-209881-1	HALAWA WELLS P1 (331-023-V	97	98	99	105	102	102	94	98

		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)
380-209881-1	HALAWA WELLS P1 (331-023-V	103	102	108	109	104	99	90	84

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)
380-209591-B-7-A MS	Matrix Spike	112	110	110	116	111	109	109	111
380-209591-C-7-A MSD	Matrix Spike Duplicate	112	111	113	113	110	112	109	114
380-209881-2	FB: HALAWA WELLS P1 (331-023-WL065)	92	83	95	93	91	91	80	78
380-209941-B-1-A MS	Matrix Spike	110	104	109	109	107	106	108	108
380-209941-C-1-A MSD	Matrix Spike Duplicate	108	99	107	108	104	108	102	100
LCS 380-222971/22-A	Lab Control Sample	110	102	112	106	106	107	100	105
LCS 380-223143/22-A	Lab Control Sample	104	110	106	106	109	112	109	110
MBL 380-222971/20-A	Method Blank	97	99	102	104	105	104	93	102
MBL 380-223143/20-A	Method Blank	88	97	94	99	101	97	101	109
MRL 380-222971/21-A	Lab Control Sample	104	99	109	106	109	103	105	106
MRL 380-223143/21-A	Lab Control Sample	86	98	90	93	97	97	96	102

		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)
380-209591-B-7-A MS	Matrix Spike	109	108	111	110	110	99	94	90
380-209591-C-7-A MSD	Matrix Spike Duplicate	113	113	109	108	111	95	95	92
380-209881-2	FB: HALAWA WELLS P1 (331-023-WL065)	100	95	91	92	89	92	83	71
380-209941-B-1-A MS	Matrix Spike	111	114	110	108	109	108	99	94

Isotope Dilution Summary

Client: City & County of Honolulu
Job ID: 380-209881-1
Project/Site: RED-HILL
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	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-209941-C-1-A MSD	Matrix Spike Duplicate	104	107	108	107	106	106	97	88
LCS 380-222971/22-A	Lab Control Sample	104	106	107	108	105	103	97	91
LCS 380-223143/22-A	Lab Control Sample	88	104	115	114	113	105	100	98
MBL 380-222971/20-A	Method Blank	110	107	103	107	104	104	97	93
MBL 380-223143/20-A	Method Blank	97	95	109	109	113	105	102	99
MRL 380-222971/21-A	Lab Control Sample	107	108	109	111	108	111	104	95
MRL 380-223143/21-A	Lab Control Sample	82	90	110	112	116	107	103	96

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

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-222971/20-A
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222971

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		04/26/26 14:57	04/27/26 18:05	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C6 PFDA	*99*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C5 PFHxA	*102*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C4 PFHpA	*104*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C8 PFOA	*105*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C9 PFNA	*104*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C7 PFUnA	*93*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C2 PFDoA	*102*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C4 PFBA	*110*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C5 PFPeA	*107*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C3 PFBS	*103*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*
13C3 PFHxS	*107*		*50 - 200*	*04/26/26 14:57*	*04/27/26 18:05*	*1*

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

Lab Sample ID: MBL 380-222971/20-A
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222971

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	104		50 - 200	04/26/26 14:57	04/27/26 18:05	1
13C2-4:2-FTS	104		50 - 200	04/26/26 14:57	04/27/26 18:05	1
13C2-6:2-FTS	97		50 - 200	04/26/26 14:57	04/27/26 18:05	1
13C2-8:2-FTS	93		50 - 200	04/26/26 14:57	04/27/26 18:05	1

Lab Sample ID: LCS 380-222971/22-A
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222971

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	120		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	116		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	119		ng/L		99	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	115		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	117		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	120	120		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	120	123		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	119		ng/L		99	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	117		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	120	113		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	120	117		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	121		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	120	116		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	126		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	116		ng/L		97	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	116		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	118		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	118		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	118		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	120	119		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	119		ng/L		99	70 - 130

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

Lab Sample ID: LCS 380-222971/22-A
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	114		ng/L		95	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*110*		*50 - 200*
13C6 PFDA	*102*		*50 - 200*
13C5 PFHxA	*112*		*50 - 200*
13C4 PFHpA	*106*		*50 - 200*
13C8 PFOA	*106*		*50 - 200*
13C9 PFNA	*107*		*50 - 200*
13C7 PFUnA	*100*		*50 - 200*
13C2 PFDoA	*105*		*50 - 200*
13C4 PFBA	*104*		*50 - 200*
13C5 PFPeA	*106*		*50 - 200*
13C3 PFBS	*107*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*
13C8 PFOS	*105*		*50 - 200*
13C2-4:2-FTS	*103*		*50 - 200*
13C2-6:2-FTS	*97*		*50 - 200*
13C2-8:2-FTS	*91*		*50 - 200*

Lab Sample ID: MRL 380-222971/21-A
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222971

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.32	J	ng/L		116	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.14	J	ng/L		107	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.32	J	ng/L		116	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.36	J	ng/L		118	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.25	J	ng/L		112	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.48	J	ng/L		124	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.40	J	ng/L		120	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.43	J	ng/L		121	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.13	J	ng/L		106	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.29	J	ng/L		114	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.39	J	ng/L		119	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.25	J	ng/L		112	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.20	J	ng/L		110	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.23	J	ng/L		111	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	2.29	J	ng/L		114	50 - 150		

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

Lab Sample ID: MRL 380-222971/21-A
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222971

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.19	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.42	J	ng/L		121	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.36	J	ng/L		118	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.31	J	ng/L		115	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.16	J	ng/L		108	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.26	J	ng/L		113	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.26	J	ng/L		113	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.34	J	ng/L		117	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.19	J	ng/L		109	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*104*		*50 - 200*
13C6 PFDA	*99*		*50 - 200*
13C5 PFHxA	*109*		*50 - 200*
13C4 PFHpA	*106*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*103*		*50 - 200*
13C7 PFUnA	*105*		*50 - 200*
13C2 PFDoA	*106*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*108*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C3 PFHxS	*111*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*111*		*50 - 200*
13C2-6:2-FTS	*104*		*50 - 200*
13C2-8:2-FTS	*95*		*50 - 200*

Lab Sample ID: 380-209941-B-1-A MS
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 222971

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	58.2		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	56.6		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	61.5		ng/L		102	70 - 130

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

Lab Sample ID: 380-209941-B-1-A MS
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 222971

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		60.1	61.8		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	6.0		60.1	63.0		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	59.8		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	61.4		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	61.5		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	59.1		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	61.3		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	61.5		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	61.5		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.1	59.7		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	62.6		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.1	59.5		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	58.2		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	63.0		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	61.1		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	63.4		ng/L		106	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	58.9		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	59.5		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	61.1		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	60.1		ng/L		100	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	58.3		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	59.1		ng/L		98	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*110*		*50 - 200*
13C6 PFDA	*104*		*50 - 200*
13C5 PFHxA	*109*		*50 - 200*
13C4 PFHpA	*109*		*50 - 200*
13C8 PFOA	*107*		*50 - 200*
13C9 PFNA	*106*		*50 - 200*
13C7 PFUnA	*108*		*50 - 200*
13C2 PFDoA	*108*		*50 - 200*
13C4 PFBA	*111*		*50 - 200*
13C5 PFPeA	*114*		*50 - 200*
13C3 PFBS	*110*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*
13C8 PFOS	*109*		*50 - 200*

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

Lab Sample ID: 380-209941-B-1-A MS
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 222971

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	108		50 - 200
13C2-6:2-FTS	99		50 - 200
13C2-8:2-FTS	94		50 - 200

Lab Sample ID: 380-209941-C-1-A MSD
Matrix: Water
Analysis Batch: 223276

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 222971

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		60.2	60.0		ng/L		100	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	59.3		ng/L		98	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	62.7		ng/L		104	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	62.0		ng/L		103	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	6.0		60.2	67.4		ng/L		102	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	63.7		ng/L		106	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	64.4		ng/L		107	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	62.2		ng/L		103	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	61.5		ng/L		101	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	62.2		ng/L		103	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	62.9		ng/L		104	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	62.8		ng/L		104	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	61.3		ng/L		102	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	61.2		ng/L		102	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	64.1		ng/L		105	70 - 130	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	62.9		ng/L		104	70 - 130	8	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	63.4		ng/L		105	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.4		ng/L		102	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	60.3		ng/L		100	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	59.1		ng/L		98	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	63.9		ng/L		106	70 - 130	7	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	63.5		ng/L		105	70 - 130	4	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	63.2		ng/L		105	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	61.3		ng/L		102	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	60.3		ng/L		100	70 - 130	2	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	108		50 - 200
13C6 PFDA	99		50 - 200
13C5 PFHxA	107		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	104		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	100		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	106		50 - 200
13C2-6:2-FTS	97		50 - 200
13C2-8:2-FTS	88		50 - 200

Lab Sample ID: MBL 380-223143/20-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223143

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1

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

Lab Sample ID: MBL 380-223143/20-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223143

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		04/27/26 07:29	04/28/26 06:45	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C6 PFDA	*97*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C5 PFHxA	*94*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C4 PFHpA	*99*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C8 PFOA	*101*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C9 PFNA	*97*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C7 PFUnA	*101*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C2 PFDoA	*109*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C4 PFBA	*97*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C5 PFPeA	*95*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C3 PFBS	*109*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C3 PFHxS	*109*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C8 PFOS	*113*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C2-4:2-FTS	*105*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C2-6:2-FTS	*102*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*
13C2-8:2-FTS	*99*		*50 - 200*	*04/27/26 07:29*	*04/28/26 06:45*	*1*

Lab Sample ID: LCS 380-223143/22-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223143

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			60.0	56.2		ng/L		94	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			60.0	57.5		ng/L		96	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			60.0	59.0		ng/L		98	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			60.0	58.5		ng/L		97	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			60.0	57.1		ng/L		95	70 - 130		
Perfluorodecanoic acid (PFDA)			60.0	56.2		ng/L		94	70 - 130		
Perfluorododecanoic acid (PFDoA)			60.0	59.2		ng/L		99	70 - 130		
Perfluoroheptanoic acid (PFHpA)			60.0	60.0		ng/L		100	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			60.0	57.2		ng/L		95	70 - 130		
Perfluorohexanoic acid (PFHxA)			60.0	58.9		ng/L		98	70 - 130		
Perfluorononanoic acid (PFNA)			60.0	56.6		ng/L		94	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			60.0	59.1		ng/L		99	70 - 130		
Perfluorooctanoic acid (PFOA)			60.0	58.4		ng/L		97	70 - 130		

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

Lab Sample ID: LCS 380-223143/22-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroundecanoic acid (PFUnA)	60.0	60.4		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	60.0	58.2		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.0	59.9		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.0	59.3		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.0	59.2		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.0	62.9		ng/L		105	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.0	55.2		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.0	70.6		ng/L		118	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.0	60.3		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	60.0	60.3		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.0	60.9		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	60.0	58.6		ng/L		98	70 - 130

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*104*		*50 - 200*
13C6 PFDA	*110*		*50 - 200*
13C5 PFHxA	*106*		*50 - 200*
13C4 PFHpA	*106*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*112*		*50 - 200*
13C7 PFUnA	*109*		*50 - 200*
13C2 PFDoA	*110*		*50 - 200*
13C4 PFBA	*88*		*50 - 200*
13C5 PFPeA	*104*		*50 - 200*
13C3 PFBS	*115*		*50 - 200*
13C3 PFHxS	*114*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*105*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*98*		*50 - 200*

Lab Sample ID: MRL 380-223143/21-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223143

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.79	J	ng/L		89	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.88	J	ng/L		94	50 - 150

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

Lab Sample ID: MRL 380-223143/21-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223143

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.13	J	ng/L		106	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.11	J	ng/L		105	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.07	J	ng/L		103	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	1.91	J	ng/L		96	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.07	J	ng/L		103	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.06	J	ng/L		103	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.05	J	ng/L		102	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.16	J	ng/L		108	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.10	J	ng/L		105	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.04	J	ng/L		102	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.12	J	ng/L		106	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.06	J	ng/L		103	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	2.05	J	ng/L		102	50 - 150		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)			2.00	2.19	J	ng/L		109	50 - 150		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)			2.00	2.21	J	ng/L		110	50 - 150		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)			2.00	2.06	J	ng/L		103	50 - 150		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)			2.00	2.11	J	ng/L		105	50 - 150		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)			2.00	2.03	J	ng/L		101	50 - 150		
Perfluoro-3-methoxypropanoic acid (PFMPA)			2.00	2.37	J	ng/L		118	50 - 150		
Perfluoro-4-methoxybutanoic acid (PFMBA)			2.00	2.01	J	ng/L		100	50 - 150		
Perfluoropentanoic acid (PFPeA)			2.00	2.16	J	ng/L		108	50 - 150		
Perfluoroheptanesulfonic acid (PFHpS)			2.00	1.97	J	ng/L		98	50 - 150		
Perfluoropentanesulfonic acid (PFPeS)			2.00	2.00	J	ng/L		100	50 - 150		

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*86*		*50 - 200*
13C6 PFDA	*98*		*50 - 200*
13C5 PFHxA	*90*		*50 - 200*
13C4 PFHpA	*93*		*50 - 200*
13C8 PFOA	*97*		*50 - 200*
13C9 PFNA	*97*		*50 - 200*
13C7 PFUnA	*96*		*50 - 200*
13C2 PFDoA	*102*		*50 - 200*
13C4 PFBA	*82*		*50 - 200*
13C5 PFPeA	*90*		*50 - 200*
13C3 PFBS	*110*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*

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

Lab Sample ID: MRL 380-223143/21-A
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223143

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C8 PFOS	*116*		*50 - 200*
13C2-4:2-FTS	*107*		*50 - 200*
13C2-6:2-FTS	*103*		*50 - 200*
13C2-8:2-FTS	*96*		*50 - 200*

Lab Sample ID: 380-209591-B-7-A MS
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 223143

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.4	56.0		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	56.7		ng/L		94	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	60.8		ng/L		101	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.4	60.8		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	5.9		60.4	66.2		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	58.3		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	59.6		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	56.8		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	6.4		60.4	65.7		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.4	61.1		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	60.1		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	4.2		60.4	65.0		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.4	59.0		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	59.9		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.4	60.3		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	60.4		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	60.9		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	63.1		ng/L		105	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	65.4		ng/L		108	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.4	57.5		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	59.7		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	61.1		ng/L		101	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.4	61.8		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	60.8		ng/L		100	70 - 130

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

Lab Sample ID: 380-209591-B-7-A MS
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 223143

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	61.6		ng/L		100	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*112*		*50 - 200*
13C6 PFDA	*110*		*50 - 200*
13C5 PFHxA	*110*		*50 - 200*
13C4 PFHpA	*116*		*50 - 200*
13C8 PFOA	*111*		*50 - 200*
13C9 PFNA	*109*		*50 - 200*
13C7 PFUnA	*109*		*50 - 200*
13C2 PFDoA	*111*		*50 - 200*
13C4 PFBA	*109*		*50 - 200*
13C5 PFPeA	*108*		*50 - 200*
13C3 PFBS	*111*		*50 - 200*
13C3 PFHxS	*110*		*50 - 200*
13C8 PFOS	*110*		*50 - 200*
13C2-4:2-FTS	*99*		*50 - 200*
13C2-6:2-FTS	*94*		*50 - 200*
13C2-8:2-FTS	*90*		*50 - 200*

Lab Sample ID: 380-209591-C-7-A MSD
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 223143

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		60.2	54.3		ng/L		90	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	55.1		ng/L		92	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.7		ng/L		98	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	60.4		ng/L		100	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	5.9		60.2	65.7		ng/L		99	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	55.7		ng/L		92	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	57.0		ng/L		95	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	59.6		ng/L		99	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	6.4		60.2	65.5		ng/L		98	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	58.7		ng/L		97	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	59.7		ng/L		99	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	4.2		60.2	61.9		ng/L		96	70 - 130	5	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	59.1		ng/L		97	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.9		ng/L		99	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	60.2		ng/L		100	70 - 130	0	30

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

Lab Sample ID: 380-209591-C-7-A MSD
Matrix: Water
Analysis Batch: 223382

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 223143

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	59.4		ng/L		99	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	60.2		ng/L		100	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	59.5		ng/L		99	70 - 130	6	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	59.1		ng/L		98	70 - 130	10	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	59.5		ng/L		99	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	60.0		ng/L		100	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	60.7		ng/L		101	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	61.0		ng/L		100	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	58.4		ng/L		96	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	61.5		ng/L		99	70 - 130	0	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*112*		*50 - 200*
13C6 PFDA	*111*		*50 - 200*
13C5 PFHxA	*113*		*50 - 200*
13C4 PFHpA	*113*		*50 - 200*
13C8 PFOA	*110*		*50 - 200*
13C9 PFNA	*112*		*50 - 200*
13C7 PFUnA	*109*		*50 - 200*
13C2 PFDoA	*114*		*50 - 200*
13C4 PFBA	*113*		*50 - 200*
13C5 PFPeA	*113*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*
13C8 PFOS	*111*		*50 - 200*
13C2-4:2-FTS	*95*		*50 - 200*
13C2-6:2-FTS	*95*		*50 - 200*
13C2-8:2-FTS	*92*		*50 - 200*

LCMS

Prep Batch: 222971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209881-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	533	
MBL 380-222971/20-A	Method Blank	Total/NA	Water	533	
LCS 380-222971/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-222971/21-A	Lab Control Sample	Total/NA	Water	533	
380-209941-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-209941-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 223143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209881-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
MBL 380-223143/20-A	Method Blank	Total/NA	Water	533	
LCS 380-223143/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-223143/21-A	Lab Control Sample	Total/NA	Water	533	
380-209591-B-7-A MS	Matrix Spike	Total/NA	Water	533	
380-209591-C-7-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 223276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209881-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	533	222971
MBL 380-222971/20-A	Method Blank	Total/NA	Water	533	222971
LCS 380-222971/22-A	Lab Control Sample	Total/NA	Water	533	222971
MRL 380-222971/21-A	Lab Control Sample	Total/NA	Water	533	222971
380-209941-B-1-A MS	Matrix Spike	Total/NA	Water	533	222971
380-209941-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	222971

Analysis Batch: 223382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-209881-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	223143
MBL 380-223143/20-A	Method Blank	Total/NA	Water	533	223143
LCS 380-223143/22-A	Lab Control Sample	Total/NA	Water	533	223143
MRL 380-223143/21-A	Lab Control Sample	Total/NA	Water	533	223143
380-209591-B-7-A MS	Matrix Spike	Total/NA	Water	533	223143
380-209591-C-7-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	223143

Lab Chronicle

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-209881-1
Matrix: Drinking Water
Date Collected: 04/20/26 11:01
Date Received: 04/22/26 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			223143	XTD8	EA POM	04/27/26 07:29
Total/NA	Analysis	533		1	223382	SZ9R	EA POM	04/28/26 09:43

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

Lab Sample ID: 380-209881-2
Matrix: Water
Date Collected: 04/20/26 11:01
Date Received: 04/22/26 10:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			222971	N8NE	EA POM	04/26/26 14:57
Total/NA	Analysis	533		1	223276	M7ML	EA POM	04/27/26 19:34

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: 380-209881-1
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 *

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

Method Summary

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

Job ID: 380-209881-1
SDG: PFAS: Halawa Wells P1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated 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: 380-209881-1
SDG: PFAS: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-209881-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	04/20/26 11:01	04/22/26 10:22	HI0000331
380-209881-2	FB: HALAWA WELLS P1 (331-023-WL065)	Water	04/20/26 11:01	04/22/26 10:22	HI0000331

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5840 (tel)	PO #: C20525101 exp 05312023			
Email: kiwamoto@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

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; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V MCAA; W - pH 4-5; Y Trizma; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	R	A	Q	QA	Y	I	X	
Halawa Wells P1 (331-023-WL065)	20-Apr-2026	1101	G	Water							3	3		
FB: Halawa Wells P1 (331-023-WL065)	20-Apr-2026	1101									1	1		

380-209881 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment: FedEx 8709 2972 2093
[redacted]	Date/Time:	Company: HBWS	Received by: Mark Uratia Date/Time: 4/22/26 1022 Company: EA
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: (631A) 3.5+0.2=3.7 gel-frozen

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5840 (tel)	PO #: C20525101 exp 05312023			
Email: kiwamoto@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

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; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V MCAA; W - pH 4-5; Y Trizma; Z - other (specify); Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges: C10-C24/C24-C36/C8-C18	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	R	A	Q	QA	Y	I	X	
Halawa Wells P1 (331-023-WL065)	20-Apr-2026	1101	G	Water							3	3		
FB: Halawa Wells P1 (331-023-WL065)	20-Apr-2026	1101									1	1		

380-209881 COC

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment: FedEx 8709 2972 2093
[redacted]	Date/Time:	Company: HBWS	Received by: Mark Uratia Date/Time: 4/22/26 1022 Company: EA
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company
Relinquished by:	Date/Time:	Company	Received by: Date/Time: Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: (63A) 3.5+0.2=3.7 gel-ice

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-209881-1
SDG Number: PFAS: Halawa Wells P1

Login Number: 209881
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	
ClO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	