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

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 10/9/2024 10:53:31 AM

JOB DESCRIPTION

RED-HILL
Weekly PFAS

JOB NUMBER

380-116203-1

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

myEOL

Eurofins Eaton Analytical Pomona

Job Notes

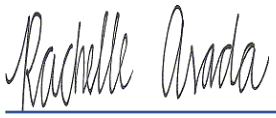
This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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

Compliance Statement

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

Authorization



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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

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
380-116203-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

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

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

Receipt
The samples were received on 10/4/2024 10:06 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 4.9°C.

Receipt Exceptions
The following samples were collected in an improper container: Halawa Shaft Viewing Pool (380-116203-1) and FB: Halawa Shaft Viewing Pool (380-116203-2). The client was contacted regarding this issue, and the laboratory was instructed to cancel EPA 537.1 analysis. All containers received in Ammonium Acetate preserved containers.

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

Detection Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool — Lab Sample ID: 380-116203-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0		ng/L	1		533	Total/NA

Client Sample ID: FB: Halawa Shaft Viewing Pool — Lab Sample ID: 380-116203-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Date Collected: 10/02/24 10:00
Date Received: 10/04/24 10:06

Lab Sample ID: 380-116203-1

Matrix: Water

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		10/07/24 07:38	10/07/24 23:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorohexanesulfonic acid (PFHxS)	**3.5**		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorooctanesulfonic acid (PFOS)	**3.5**		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		10/07/24 07:38	10/07/24 23:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C6 PFDA	*78*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C5 PFHxA	*79*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C4 PFHpA	*77*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C8 PFOA	*75*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C9 PFNA	*72*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C7 PFUnA	*81*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C2 PFDoA	*89*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C4 PFBA	*87*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C5 PFPeA	*80*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C3 PFBS	*96*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*
13C3 PFHxS	*92*		*50 - 200*	*10/07/24 07:38*	*10/07/24 23:56*	*1*

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-116203-1
Matrix: Water
Date Collected: 10/02/24 10:00
Date Received: 10/04/24 10:06

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	93		50 - 200	10/07/24 07:38	10/07/24 23:56	1
13C2-4:2-FTS	97		50 - 200	10/07/24 07:38	10/07/24 23:56	1
13C2-6:2-FTS	87		50 - 200	10/07/24 07:38	10/07/24 23:56	1
13C2-8:2-FTS	89		50 - 200	10/07/24 07:38	10/07/24 23:56	1

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-116203-2
Matrix: Water
Date Collected: 10/02/24 10:00
Date Received: 10/04/24 10:06

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		10/07/24 07:38	10/08/24 00:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		10/07/24 07:38	10/08/24 00:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	102		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C6 PFDA	114		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C5 PFHxA	106		50 - 200	10/07/24 07:38	10/08/24 00:05	1

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Client Sample ID: FB: Halawa Shaft Viewing Pool
Date Collected: 10/02/24 10:00
Date Received: 10/04/24 10:06

Lab Sample ID: 380-116203-2
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	111		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C8 PFOA	112		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C9 PFNA	106		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C7 PFUnA	109		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C2 PFDoA	113		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C4 PFBA	116		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C5 PFPeA	113		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C3 PFBS	115		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C3 PFHxS	112		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C8 PFOS	106		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C2-4:2-FTS	107		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C2-6:2-FTS	105		50 - 200	10/07/24 07:38	10/08/24 00:05	1
13C2-8:2-FTS	101		50 - 200	10/07/24 07:38	10/08/24 00:05	1

Action Limit Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool — Lab Sample ID: 380-116203-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		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 Shaft Viewing Pool — Lab Sample ID: 380-116203-2

Compliance Check

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

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

Isotope Dilution Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

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)
380-115406-F-1-A MS	Matrix Spike	106	109	112	107	108	110	114	118
380-115406-G-1-A MSD	Matrix Spike Duplicate	108	114	109	113	112	112	115	120
380-116203-1	Halawa Shaft Viewing Pool	76	78	79	77	75	72	81	89
380-116203-2	FB: Halawa Shaft Viewing Pool	102	114	106	111	112	106	109	113
LCS 380-112053/22-A	Lab Control Sample	91	98	100	97	98	101	101	102
MBL 380-112053/20-A	Method Blank	103	106	107	109	113	114	114	114
MRL 380-112053/21-A	Lab Control Sample	98	115	110	115	109	113	114	113

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-115406-F-1-A MS	Matrix Spike	115	112	106	104	104	101	95	98
380-115406-G-1-A MSD	Matrix Spike Duplicate	117	113	111	108	104	99	101	100
380-116203-1	Halawa Shaft Viewing Pool	87	80	96	92	93	97	87	89
380-116203-2	FB: Halawa Shaft Viewing Pool	116	113	115	112	106	107	105	101
LCS 380-112053/22-A	Lab Control Sample	97	100	96	96	98	92	92	90
MBL 380-112053/20-A	Method Blank	115	116	104	111	110	113	107	101
MRL 380-112053/21-A	Lab Control Sample	116	112	113	112	108	112	105	105

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

Lab Sample ID: MBL 380-112053/20-A
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 112053

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		10/07/24 07:38	10/07/24 20:09	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		10/07/24 07:38	10/07/24 20:09	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C6 PFDA	*106*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C5 PFHxA	*107*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C4 PFHpA	*109*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C8 PFOA	*113*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C9 PFNA	*114*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C7 PFUnA	*114*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C2 PFDoA	*114*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C4 PFBA	*115*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C5 PFPeA	*116*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C3 PFBS	*104*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*
13C3 PFHxS	*111*		*50 - 200*	*10/07/24 07:38*	*10/07/24 20:09*	*1*

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

Lab Sample ID: MBL 380-112053/20-A
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 112053

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	110		50 - 200	10/07/24 07:38	10/07/24 20:09	1
13C2-4:2-FTS	113		50 - 200	10/07/24 07:38	10/07/24 20:09	1
13C2-6:2-FTS	107		50 - 200	10/07/24 07:38	10/07/24 20:09	1
13C2-8:2-FTS	101		50 - 200	10/07/24 07:38	10/07/24 20:09	1

Lab Sample ID: LCS 380-112053/22-A
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112053

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	59.9	55.6		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	59.9	54.5		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.9	59.1		ng/L		99	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.9	60.6		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.9	57.6		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	59.9	59.7		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	59.9	57.8		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.9	59.6		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.9	58.2		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	59.9	56.9		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	59.9	56.8		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.9	56.5		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	59.9	58.5		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.9	59.1		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	59.9	60.2		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.9	60.3		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.9	58.5		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.9	57.7		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.9	59.2		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	59.9	57.0		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.9	63.0		ng/L		105	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.9	57.8		ng/L		97	70 - 130
Perfluoropentanoic acid (PFPeA)	59.9	58.5		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.9	57.6		ng/L		96	70 - 130

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

Lab Sample ID: LCS 380-112053/22-A
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			59.9	58.0		ng/L		97	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*91*		*50 - 200*
13C6 PFDA	*98*		*50 - 200*
13C5 PFHxA	*100*		*50 - 200*
13C4 PFHpA	*97*		*50 - 200*
13C8 PFOA	*98*		*50 - 200*
13C9 PFNA	*101*		*50 - 200*
13C7 PFUnA	*101*		*50 - 200*
13C2 PFDoA	*102*		*50 - 200*
13C4 PFBA	*97*		*50 - 200*
13C5 PFPeA	*100*		*50 - 200*
13C3 PFBS	*96*		*50 - 200*
13C3 PFHxS	*96*		*50 - 200*
13C8 PFOS	*98*		*50 - 200*
13C2-4:2-FTS	*92*		*50 - 200*
13C2-6:2-FTS	*92*		*50 - 200*
13C2-8:2-FTS	*90*		*50 - 200*

Lab Sample ID: MRL 380-112053/21-A
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112053

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	1.95	J	ng/L		97	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	1.97	J	ng/L		99	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	1.97	J	ng/L		99	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.07	J	ng/L		104	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	1.94	J	ng/L		97	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.12	J	ng/L		106	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	1.96	J	ng/L		98	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.03	J	ng/L		102	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	1.94	J	ng/L		97	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.02	J	ng/L		101	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.00	J	ng/L		100	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.06	J	ng/L		103	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.19	J	ng/L		110	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.15	J	ng/L		108	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	1.95	J	ng/L		97	50 - 150		

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

Lab Sample ID: MRL 380-112053/21-A
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 112053

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.25	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.19	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.15	J	ng/L		107	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.39	J	ng/L		120	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	1.89	J	ng/L		95	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.93	J	ng/L		97	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.97	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.01	J	ng/L		101	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.98	J	ng/L		99	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.88	J	ng/L		94	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*98*		*50 - 200*
13C6 PFDA	*115*		*50 - 200*
13C5 PFHxA	*110*		*50 - 200*
13C4 PFHpA	*115*		*50 - 200*
13C8 PFOA	*109*		*50 - 200*
13C9 PFNA	*113*		*50 - 200*
13C7 PFUnA	*114*		*50 - 200*
13C2 PFDoA	*113*		*50 - 200*
13C4 PFBA	*116*		*50 - 200*
13C5 PFPeA	*112*		*50 - 200*
13C3 PFBS	*113*		*50 - 200*
13C3 PFHxS	*112*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*112*		*50 - 200*
13C2-6:2-FTS	*105*		*50 - 200*
13C2-8:2-FTS	*105*		*50 - 200*

Lab Sample ID: 380-115406-F-1-A MS
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 112053

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		59.9	58.7		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.9	59.9		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.9	59.2		ng/L		99	70 - 130

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

Lab Sample ID: 380-115406-F-1-A MS
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 112053

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		59.9	58.1		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.9	58.5		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		59.9	62.5		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		59.9	57.1		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		59.9	60.5		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.9	60.2		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		59.9	55.4		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		59.9	56.6		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.9	58.3		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		59.9	59.9		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		59.9	59.0		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		59.9	57.5		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.9	60.5		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.9	60.8		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.9	57.5		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.9	60.9		ng/L		102	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.9	58.3		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.9	60.7		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.9	59.7		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		59.9	57.7		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.9	59.5		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.9	61.0		ng/L		102	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*106*		*50 - 200*
13C6 PFDA	*109*		*50 - 200*
13C5 PFHxA	*112*		*50 - 200*
13C4 PFHpA	*107*		*50 - 200*
13C8 PFOA	*108*		*50 - 200*
13C9 PFNA	*110*		*50 - 200*
13C7 PFUnA	*114*		*50 - 200*
13C2 PFDoA	*118*		*50 - 200*
13C4 PFBA	*115*		*50 - 200*
13C5 PFPeA	*112*		*50 - 200*
13C3 PFBS	*106*		*50 - 200*
13C3 PFHxS	*104*		*50 - 200*
13C8 PFOS	*104*		*50 - 200*

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

Lab Sample ID: 380-115406-F-1-A MS
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 112053

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	101		50 - 200
13C2-6:2-FTS	95		50 - 200
13C2-8:2-FTS	98		50 - 200

Lab Sample ID: 380-115406-G-1-A MSD
Matrix: Water
Analysis Batch: 112140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 112053

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		59.9	60.7		ng/L		101	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		59.9	60.2		ng/L		100	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		59.9	57.3		ng/L		96	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		59.9	60.7		ng/L		101	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		59.9	56.6		ng/L		94	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		59.9	61.3		ng/L		102	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		59.9	59.1		ng/L		99	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		59.9	58.4		ng/L		97	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		59.9	57.3		ng/L		96	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	<2.0		59.9	63.4		ng/L		106	70 - 130	13	30
Perfluorononanoic acid (PFNA)	<2.0		59.9	58.6		ng/L		98	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		59.9	61.6		ng/L		103	70 - 130	5	30
Perfluorooctanoic acid (PFOA)	<2.0		59.9	61.0		ng/L		102	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		59.9	59.7		ng/L		100	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		59.9	58.8		ng/L		98	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		59.9	62.6		ng/L		105	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		59.9	60.9		ng/L		102	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		59.9	58.9		ng/L		98	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		59.9	64.0		ng/L		107	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		59.9	56.2		ng/L		94	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		59.9	60.7		ng/L		101	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		59.9	59.7		ng/L		100	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		59.9	60.7		ng/L		101	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		59.9	61.0		ng/L		102	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		59.9	57.7		ng/L		96	70 - 130	6	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	114		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	115		50 - 200
13C2 PFDoA	120		50 - 200
13C4 PFBA	117		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	111		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	99		50 - 200
13C2-6:2-FTS	101		50 - 200
13C2-8:2-FTS	100		50 - 200

QC Association Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

LCMS

Prep Batch: 112053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-116203-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	
380-116203-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	533	
MBL 380-112053/20-A	Method Blank	Total/NA	Water	533	
LCS 380-112053/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-112053/21-A	Lab Control Sample	Total/NA	Water	533	
380-115406-F-1-A MS	Matrix Spike	Total/NA	Water	533	
380-115406-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 112140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-116203-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	112053
380-116203-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	533	112053
MBL 380-112053/20-A	Method Blank	Total/NA	Water	533	112053
LCS 380-112053/22-A	Lab Control Sample	Total/NA	Water	533	112053
MRL 380-112053/21-A	Lab Control Sample	Total/NA	Water	533	112053
380-115406-F-1-A MS	Matrix Spike	Total/NA	Water	533	112053
380-115406-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	112053

Lab Chronicle

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-116203-1

Date Collected: 10/02/24 10:00

Matrix: Water

Date Received: 10/04/24 10:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			112053	XTD8	EA POM	10/07/24 07:38
Total/NA	Analysis	533		1	112140	M7ML	EA POM	10/07/24 23:56

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-116203-2

Date Collected: 10/02/24 10:00

Matrix: Water

Date Received: 10/04/24 10:06

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			112053	XTD8	EA POM	10/07/24 07:38
Total/NA	Analysis	533		1	112140	M7ML	EA POM	10/08/24 00:05

Laboratory References:

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

Accreditation/Certification Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Laboratory: Eurofins Eaton Analytical Pomona

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

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

Method Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

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 Eaton Analytical Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Sample Summary

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

Job ID: 380-116203-1
SDG: Weekly PFAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-116203-1	Halawa Shaft Viewing Pool	Water	10/02/24 10:00	10/04/24 10:06
380-116203-2	FB: Halawa Shaft Viewing Pool	Water	10/02/24 10:00	10/04/24 10:06

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona CA 91768-2642
Phone (626) 386-1100

Chain of Custody Record

eurofins | Environment Testing

380-116203 COC

Client Information	Sampler: Ryan Greer	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-28005-2757 1
Client Contact: Dr Ron Fenstemacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofinsus com	State of Origin: HI	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 Yes Δ No			
Phone: 808-748-5091(Tel)	PO #: C20525101 exp 05312023			
Email: RFENSTEMACHER@hbws.org	WO #:			
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site: Hawaii	SSOW#:			

Analysis Requested

Preservation Codes.
R - NaThioSO4
RA - NaThio/HCl
Q Na2SO3
QA - Na2SO3/HCl
Y - Trizma
I - NH4 Acetate
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)	625.1, 625.1_SIM	8016B_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:				R	RA	Q	QA	Y	I		
Halawa Shaft Viewing Pool	10/2/24	1000		Water							3	3		
FB Halawa Shaft Viewing Pool	10/2/24	0900		Water							1	1		

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: 7790 0423 9666			
Relinquished by: [redacted]	Date/Time: 10/3/24 1100	Company: HBWS	Received by: Mark Uranta	Date/Time: 10/4/24 1006	Company: EEHP	
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) 5.1-0.2=4.9 gel-frozen			

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-116203-1
SDG Number: Weekly PFAS

Login Number: 116203
List Number: 1
Creator: Gerfen, Chris

List Source: Eurofins Eaton Analytical Pomona

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