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ANALYTICAL REPORT

PREPARED FOR

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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 Shaft Viewing Pool

JOB NUMBER

380-166328-1

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

See page two for job notes and contact information.

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: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Qualifiers

LCMS

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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
380-166328-1

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 8/14/2025 10:24 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 was 1.5º C.

PFAS
PFAS results by 533 for Halawa Shaft Viewing Pool (380-166328-1) collected 08/12/25 are a resample for Halawa Shaft Viewing Pool job # 380-164823 collected 08/05/25. (XWB4)

Halawa Shaft Viewing Pool (380-166328-1)

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

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

Detection Summary

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

Job ID: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool — Lab Sample ID: 380-166328-1

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)	3.2		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0		ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0		ng/L	1		537.1	Total/NA

Client Sample ID: Halawa Shaft Viewing Pool Blank — Lab Sample ID: 380-166328-2

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: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool
Date Collected: 08/12/25 09:45
Date Received: 08/14/25 10:24

Lab Sample ID: 380-166328-1
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		08/16/25 15:25	08/17/25 16:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorohexanesulfonic acid (PFHxS)	**3.5**		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorooctanesulfonic acid (PFOS)	**3.2**		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C6 PFDA	*98*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C5 PFHxA	*94*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C4 PFHpA	*96*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C8 PFOA	*95*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C9 PFNA	*99*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C7 PFUnA	*96*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C2 PFDoA	*102*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C4 PFBA	*101*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C5 PFPeA	*94*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C3 PFBS	*96*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*
13C3 PFHxS	*98*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:17*	*1*

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-166328-1
Matrix: Water
Date Collected: 08/12/25 09:45
Date Received: 08/14/25 10:24

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	105		50 - 200	08/16/25 15:25	08/17/25 16:17	1
13C2-4:2-FTS	119		50 - 200	08/16/25 15:25	08/17/25 16:17	1
13C2-6:2-FTS	104		50 - 200	08/16/25 15:25	08/17/25 16:17	1
13C2-8:2-FTS	105		50 - 200	08/16/25 15:25	08/17/25 16:17	1

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorooctanesulfonic acid (PFOS)	**3.5**		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorohexanesulfonic acid (PFHxS)	**3.9**		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	113		70 - 130	08/15/25 03:26	08/15/25 21:31	1
13C2 PFHxA	105		70 - 130	08/15/25 03:26	08/15/25 21:31	1
13C2 PFDA	118		70 - 130	08/15/25 03:26	08/15/25 21:31	1
13C3-GenX	105		70 - 130	08/15/25 03:26	08/15/25 21:31	1

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-166328-2
Matrix: Water
Date Collected: 08/12/25 09:45
Date Received: 08/14/25 10:24

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		08/16/25 15:25	08/17/25 16:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1

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

Job ID: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool Blank
Date Collected: 08/12/25 09:45
Date Received: 08/14/25 10:24

Lab Sample ID: 380-166328-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		08/16/25 15:25	08/17/25 16:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*82*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C6 PFDA	*102*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C5 PFHxA	*102*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C4 PFHpA	*102*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C8 PFOA	*101*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C9 PFNA	*105*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C7 PFUnA	*97*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C2 PFDoA	*102*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C4 PFBA	*101*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C5 PFPeA	*97*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C3 PFBS	*99*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C3 PFHxS	*99*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C8 PFOS	*110*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C2-4:2-FTS	*108*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C2-6:2-FTS	*102*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*
13C2-8:2-FTS	*104*		*50 - 200*	*08/16/25 15:25*	*08/17/25 16:27*	*1*

Client Sample ID: Halawa Shaft Viewing Pool Blank

Date Collected: 08/12/25 09:45
Date Received: 08/14/25 10:24

Lab Sample ID: 380-166328-2

Matrix: Water

Method: EPA 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		08/15/25 03:26	08/15/25 21:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*95*		*70 - 130*	*08/15/25 03:26*	*08/15/25 21:41*	*1*
13C2 PFHxA	*97*		*70 - 130*	*08/15/25 03:26*	*08/15/25 21:41*	*1*
13C2 PFDA	*110*		*70 - 130*	*08/15/25 03:26*	*08/15/25 21:41*	*1*
13C3-GenX	*91*		*70 - 130*	*08/15/25 03:26*	*08/15/25 21:41*	*1*

Action Limit Summary

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

Job ID: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool — Lab Sample ID: 380-166328-1

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)	3.2		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: Halawa Shaft Viewing Pool Blank — Lab Sample ID: 380-166328-2

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-166232-B-1-A MS	Matrix Spike	106	106	121	98
380-166232-C-1-A MSD	Matrix Spike Duplicate	100	96	108	95
380-166328-1	Halawa Shaft Viewing Pool	113	105	118	105
380-166328-2	Halawa Shaft Viewing Pool Blank	95	97	110	91
LCS 380-168672/22-A	Lab Control Sample	103	107	114	104
MBL 380-168672/20-A	Method Blank	100	100	112	94
MRL 380-168672/21-A	Lab Control Sample	99	100	110	95

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: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

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)
380-165887-H-1-A MS	Matrix Spike	87	92	93	90	92	97	91	99
380-165887-I-1-A MSD	Matrix Spike Duplicate	88	93	93	94	93	93	89	97
380-166328-1	Halawa Shaft Viewing Pool	87	98	94	96	95	99	96	102
380-166328-2	Halawa Shaft Viewing Pool Blank	82	102	102	102	101	105	97	102
LCS 380-168870/22-A	Lab Control Sample	93	106	101	102	102	106	102	110
MBL 380-168870/20-A	Method Blank	92	104	104	108	107	108	101	105
MRL 380-168870/21-A	Lab Control Sample	91	103	103	105	106	108	98	104

		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)
380-165887-H-1-A MS	Matrix Spike	97	97	99	97	107	112	105	102
380-165887-I-1-A MSD	Matrix Spike Duplicate	94	93	97	97	106	109	103	101
380-166328-1	Halawa Shaft Viewing Pool	101	94	96	98	105	119	104	105
380-166328-2	Halawa Shaft Viewing Pool Blank	101	97	99	99	110	108	102	104
LCS 380-168870/22-A	Lab Control Sample	103	101	102	99	108	105	102	99
MBL 380-168870/20-A	Method Blank	105	99	99	97	108	104	101	99
MRL 380-168870/21-A	Lab Control Sample	106	100	91	95	108	103	100	98

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 380-168870/20-A
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168870

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		08/16/25 15:25	08/17/25 13:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		08/16/25 15:25	08/17/25 13:44	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C6 PFDA	*104*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C5 PFHxA	*104*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C4 PFHpA	*108*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C8 PFOA	*107*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C9 PFNA	*108*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C7 PFUnA	*101*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C2 PFDoA	*105*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C4 PFBA	*105*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C5 PFPeA	*99*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C3 PFBS	*99*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*
13C3 PFHxS	*97*		*50 - 200*	*08/16/25 15:25*	*08/17/25 13:44*	*1*

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

Lab Sample ID: MBL 380-168870/20-A
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168870

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	108		50 - 200	08/16/25 15:25	08/17/25 13:44	1
13C2-4:2-FTS	104		50 - 200	08/16/25 15:25	08/17/25 13:44	1
13C2-6:2-FTS	101		50 - 200	08/16/25 15:25	08/17/25 13:44	1
13C2-8:2-FTS	99		50 - 200	08/16/25 15:25	08/17/25 13:44	1

Lab Sample ID: LCS 380-168870/22-A
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168870

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	112		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	107		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	115		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	112		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	119		ng/L		99	70 - 130
Perfluorodecanoic acid (PFDA)	120	118		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	120	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	124		ng/L		103	70 - 130
Perfluorohexanoic acid (PFHxA)	120	116		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	120	118		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	115		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	120	120		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	122		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	120		ng/L		100	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	118		ng/L		98	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	113		ng/L		94	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	111		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	116		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	115		ng/L		96	70 - 130
Perfluoropentanoic acid (PFPeA)	120	119		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	115		ng/L		95	70 - 130

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

Lab Sample ID: LCS 380-168870/22-A
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168870

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			120	119		ng/L		99	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*93*		*50 - 200*
13C6 PFDA	*106*		*50 - 200*
13C5 PFHxA	*101*		*50 - 200*
13C4 PFHpA	*102*		*50 - 200*
13C8 PFOA	*102*		*50 - 200*
13C9 PFNA	*106*		*50 - 200*
13C7 PFUnA	*102*		*50 - 200*
13C2 PFDoA	*110*		*50 - 200*
13C4 PFBA	*103*		*50 - 200*
13C5 PFPeA	*101*		*50 - 200*
13C3 PFBS	*102*		*50 - 200*
13C3 PFHxS	*99*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*105*		*50 - 200*
13C2-6:2-FTS	*102*		*50 - 200*
13C2-8:2-FTS	*99*		*50 - 200*

Lab Sample ID: MRL 380-168870/21-A
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168870

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.01	1.82	J	ng/L		90	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.01	1.65	J	ng/L		82	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.01	1.86	J	ng/L		92	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.01	1.93	J	ng/L		96	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.01	2.27	J	ng/L		113	50 - 150		
Perfluorodecanoic acid (PFDA)			2.01	2.03	J	ng/L		101	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.01	2.10	J	ng/L		104	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.01	2.06	J	ng/L		103	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.01	2.16	J	ng/L		108	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.01	1.91	J	ng/L		95	50 - 150		
Perfluorononanoic acid (PFNA)			2.01	1.96	J	ng/L		97	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.01	2.04	J	ng/L		101	50 - 150		
Perfluorooctanoic acid (PFOA)			2.01	1.94	J	ng/L		97	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.01	2.11	J	ng/L		105	50 - 150		
Perfluorobutanoic acid (PFBA)			2.01	2.04	J	ng/L		102	50 - 150		

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

Lab Sample ID: MRL 380-168870/21-A
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168870

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	1.96	J	ng/L		97	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.09	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.12	J	ng/L		106	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.19	J	ng/L		109	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.94	J	ng/L		96	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.87	J	ng/L		93	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.99	J	ng/L		99	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*91*		*50 - 200*
13C6 PFDA	*103*		*50 - 200*
13C5 PFHxA	*103*		*50 - 200*
13C4 PFHpA	*105*		*50 - 200*
13C8 PFOA	*106*		*50 - 200*
13C9 PFNA	*108*		*50 - 200*
13C7 PFUnA	*98*		*50 - 200*
13C2 PFDoA	*104*		*50 - 200*
13C4 PFBA	*106*		*50 - 200*
13C5 PFPeA	*100*		*50 - 200*
13C3 PFBS	*91*		*50 - 200*
13C3 PFHxS	*95*		*50 - 200*
13C8 PFOS	*108*		*50 - 200*
13C2-4:2-FTS	*103*		*50 - 200*
13C2-6:2-FTS	*100*		*50 - 200*
13C2-8:2-FTS	*98*		*50 - 200*

Lab Sample ID: 380-165887-H-1-A MS
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 168870

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		60.2	59.1		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	52.3		ng/L		87	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	60.1		ng/L		100	70 - 130

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

Lab Sample ID: 380-165887-H-1-A MS
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 168870

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		60.2	56.3		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	61.5		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	61.8		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.7		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	60.6		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	64.4		ng/L		107	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	59.2		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	59.4		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	59.9		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	58.5		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	61.7		ng/L		102	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	58.9		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	63.0		ng/L		105	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	62.2		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	63.3		ng/L		105	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	59.2		ng/L		98	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	58.1		ng/L		96	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	57.1		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	61.4		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	61.1		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.8		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	61.7		ng/L		102	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*50 - 200*
13C6 PFDA	*92*		*50 - 200*
13C5 PFHxA	*93*		*50 - 200*
13C4 PFHpA	*90*		*50 - 200*
13C8 PFOA	*92*		*50 - 200*
13C9 PFNA	*97*		*50 - 200*
13C7 PFUnA	*91*		*50 - 200*
13C2 PFDoA	*99*		*50 - 200*
13C4 PFBA	*97*		*50 - 200*
13C5 PFPeA	*97*		*50 - 200*
13C3 PFBS	*99*		*50 - 200*
13C3 PFHxS	*97*		*50 - 200*
13C8 PFOS	*107*		*50 - 200*

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

Lab Sample ID: 380-165887-H-1-A MS
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 168870

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	102		50 - 200

Lab Sample ID: 380-165887-I-1-A MSD
Matrix: Water
Analysis Batch: 168889

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 168870

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		60.1	57.5		ng/L		96	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	53.0		ng/L		88	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	57.3		ng/L		95	70 - 130	5	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	59.4		ng/L		99	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	64.4		ng/L		107	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		60.1	61.2		ng/L		102	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	60.8		ng/L		101	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	61.1		ng/L		102	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	64.0		ng/L		107	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	60.6		ng/L		101	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		60.1	61.3		ng/L		102	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	58.7		ng/L		98	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		60.1	58.1		ng/L		96	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	62.4		ng/L		104	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		60.1	58.5		ng/L		97	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	61.7		ng/L		103	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	60.7		ng/L		101	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	61.2		ng/L		102	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	64.7		ng/L		108	70 - 130	9	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	59.8		ng/L		99	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	57.7		ng/L		96	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	59.4		ng/L		99	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	59.6		ng/L		99	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	59.4		ng/L		99	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	61.2		ng/L		102	70 - 130	1	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	93		50 - 200
13C5 PFHxA	93		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	93		50 - 200
13C9 PFNA	93		50 - 200
13C7 PFUnA	89		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	93		50 - 200
13C3 PFBS	97		50 - 200
13C3 PFHxS	97		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	103		50 - 200
13C2-8:2-FTS	101		50 - 200

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MBL 380-168672/20-A
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168672

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		08/15/25 03:26	08/15/25 20:22	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130	08/15/25 03:26	08/15/25 20:22	1
13C2 PFHxA	100		70 - 130	08/15/25 03:26	08/15/25 20:22	1
13C2 PFDA	112		70 - 130	08/15/25 03:26	08/15/25 20:22	1

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MBL 380-168672/20-A
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 168672

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	94		70 - 130	08/15/25 03:26	08/15/25 20:22	1

Lab Sample ID: LCS 380-168672/22-A
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168672

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	25.4		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.1	27.7		ng/L		111	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	28.6		ng/L		114	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	26.5		ng/L		106	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	25.3		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	26.6		ng/L		106	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	27.0		ng/L		108	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	26.6		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	27.4		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	28.8		ng/L		115	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	26.6		ng/L		106	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.1		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	25.1	27.1		ng/L		108	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	22.2		ng/L		89	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	29.0		ng/L		116	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	28.2		ng/L		113	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	28.7		ng/L		115	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	25.7		ng/L		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	103		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	114		70 - 130
13C3-GenX	104		70 - 130

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MRL 380-168672/21-A
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 168672

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.29	J	ng/L		114	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.40	J	ng/L		120	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.06	J	ng/L		103	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.13	J	ng/L		107	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.33	J	ng/L		117	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.29	J	ng/L		114	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.29	J	ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.31	J	ng/L		115	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.25	J	ng/L		112	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.49	J	ng/L		125	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.37	J	ng/L		118	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.21	J	ng/L		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.98	J	ng/L		99	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*99*		*70 - 130*
13C2 PFHxA	*100*		*70 - 130*
13C2 PFDA	*110*		*70 - 130*
13C3-GenX	*95*		*70 - 130*

Lab Sample ID: 380-166232-B-1-A MS
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 168672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	23.8		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	29.1		ng/L		116	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	28.2		ng/L		112	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	27.1		ng/L		108	70 - 130

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-166232-B-1-A MS
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 168672

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.0		ng/L		108	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	27.4		ng/L		110	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	28.0		ng/L		112	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	27.9		ng/L		111	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	29.3		ng/L		117	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	29.1		ng/L		116	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	29.0		ng/L		116	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.7		ng/L		110	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.3		ng/L		109	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	24.1		ng/L		96	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	28.9		ng/L		115	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	28.8		ng/L		115	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0	F1	25.1	34.0	F1	ng/L		136	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	26.1		ng/L		104	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*106*		*70 - 130*
13C2 PFHxA	*106*		*70 - 130*
13C2 PFDA	*121*		*70 - 130*
13C3-GenX	*98*		*70 - 130*

Lab Sample ID: 380-166232-C-1-A MSD
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 168672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	23.8		ng/L		95	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	26.4		ng/L		105	70 - 130	10	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.1		ng/L		108	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.0		ng/L		104	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	25.9		ng/L		103	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	25.0		ng/L		100	70 - 130	9	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.2		ng/L		109	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	26.1		ng/L		104	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	28.0		ng/L		112	70 - 130	5	30

Method: 537.1 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: 380-166232-C-1-A MSD
Matrix: Water
Analysis Batch: 168768

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 168672

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	27.1		ng/L		108	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.2		ng/L		105	70 - 130	10	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.9		ng/L		103	70 - 130	7	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.3		ng/L		101	70 - 130	8	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	23.2		ng/L		93	70 - 130	4	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	27.2		ng/L		109	70 - 130	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	27.1		ng/L		108	70 - 130	6	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0	F1	25.1	31.3		ng/L		125	70 - 130	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	24.4		ng/L		97	70 - 130	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
d5-NEtFOSAA	*100*		*70 - 130*
13C2 PFHxA	*96*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*
13C3-GenX	*95*		*70 - 130*

LCMS

Prep Batch: 168672

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-166328-1	Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	
380-166328-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	537.1 DW	
MBL 380-168672/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-168672/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-168672/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-166232-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-166232-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 168768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-166328-1	Halawa Shaft Viewing Pool	Total/NA	Water	537.1	168672
380-166328-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	537.1	168672
MBL 380-168672/20-A	Method Blank	Total/NA	Water	537.1	168672
LCS 380-168672/22-A	Lab Control Sample	Total/NA	Water	537.1	168672
MRL 380-168672/21-A	Lab Control Sample	Total/NA	Water	537.1	168672
380-166232-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	168672
380-166232-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	168672

Prep Batch: 168870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-166328-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	
380-166328-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	533	
MBL 380-168870/20-A	Method Blank	Total/NA	Water	533	
LCS 380-168870/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-168870/21-A	Lab Control Sample	Total/NA	Water	533	
380-165887-H-1-A MS	Matrix Spike	Total/NA	Water	533	
380-165887-I-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 168889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-166328-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	168870
380-166328-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	533	168870
MBL 380-168870/20-A	Method Blank	Total/NA	Water	533	168870
LCS 380-168870/22-A	Lab Control Sample	Total/NA	Water	533	168870
MRL 380-168870/21-A	Lab Control Sample	Total/NA	Water	533	168870
380-165887-H-1-A MS	Matrix Spike	Total/NA	Water	533	168870
380-165887-I-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	168870

Lab Chronicle

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

Job ID: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-166328-1
Date Collected: 08/12/25 09:45
Matrix: Water
Date Received: 08/14/25 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			168870	N8NE	EA POM	08/16/25 15:25
Total/NA	Analysis	533		1	168889	SZ9R	EA POM	08/17/25 16:17
Total/NA	Prep	537.1 DW			168672	G9MN	EA POM	08/15/25 03:26
Total/NA	Analysis	537.1		1	168768	Y5FM	EA POM	08/15/25 21:31

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-166328-2
Date Collected: 08/12/25 09:45
Matrix: Water
Date Received: 08/14/25 10:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			168870	N8NE	EA POM	08/16/25 15:25
Total/NA	Analysis	533		1	168889	SZ9R	EA POM	08/17/25 16:27
Total/NA	Prep	537.1 DW			168672	G9MN	EA POM	08/15/25 03:26
Total/NA	Analysis	537.1		1	168768	Y5FM	EA POM	08/15/25 21:41

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: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Laboratory: Eurofins Eaton Analytical Pomona

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

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

Method Summary

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

Job ID: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
537.1	Perfluorinated Alkyl Acids (LC/MS)	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EA POM = Eurofins 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: 380-166328-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-166328-1	Halawa Shaft Viewing Pool	Water	08/12/25 09:45	08/14/25 10:24	Hawaii
380-166328-2	Halawa Shaft Viewing Pool Blank	Water	08/12/25 09:45	08/14/25 10:24	Hawaii

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

380-166328 COC

Client Information	Sampler: Jason Rakofsky	Lab PM: Arada, Rachelle	Carrier Tracking No(s):	COC No: 380-27941-2757 2
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Rachelle.Arada@et.eurofinsus.com	State of Origin:	Page: Page 2 of 2
Company: City & County of Honolulu	PWSID:			Job #:

Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:
City: Honolulu	TAT Requested (days): RUSH
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 Shaft Viewing Pool	12-Aug-2025	0945	G	Water							3	3		
Halawa Shaft Viewing Pool Blank	12-Aug-2025	V	G	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 8835 5163 8595
[redacted]	Date/Time: 8/13/25 1100	Company: HBWS	Received by:	Date/Time: 08/14/25 10:24	Company: EEAP
	Date/Time	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		4.5/1.4 1.5-0.0=1.5° GEL-FROZEN

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-166328-1
SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 166328
List Number: 1
Creator: Sanchez Velasquez, Gustavo

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	