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ANALYTICAL REPORT

PREPARED FOR

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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-222716-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Job Notes

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

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

Compliance Statement

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

Authorization

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Definitions/Glossary

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Qualifiers

LCMS

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD 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
380-222716-1

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 7/2/2026 10:15 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 2.0°C.

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: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL — Lab Sample ID: 380-222716-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		2.0		ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0		ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0		ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB HALAWA SHAFT VIEWING POOL — Lab Sample ID: 380-222716-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL
Date Collected: 06/30/26 09:15
Date Received: 07/02/26 10:15

Lab Sample ID: 380-222716-1
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		07/03/26 13:40	07/06/26 11:48	1
9-Chlorohexadecafluoro-3-oxanonane--sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorohexanesulfonic acid (PFHxS)	**3.2**		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoro (2-ethoxyethane) sulfonic aci (PFEESA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C6 PFDA	*111*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C5 PFHxA	*114*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C4 PFHpA	*117*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C8 PFOA	*119*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C9 PFNA	*119*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C7 PFUnA	*121*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C2 PFDoA	*113*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C4 PFBA	*120*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C5 PFPeA	*134*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C3 PFBS	*115*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C3 PFHxS	*109*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C8 PFOS	*114*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C2-4:2-FTS	*145*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*
13C2-6:2-FTS	*134*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:48*	*1*

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-222716-1

Date Collected: 06/30/26 09:15
Matrix: Water
Date Received: 07/02/26 10:15

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	132		50 - 200	07/03/26 13:40	07/06/26 11:48	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorooctanesulfonic acid (PFOS)	**3.3**		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
N-methylperfluorooctanesulfonamidoac etic acid (NMeFOSAA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
N-ethylperfluorooctanesulfonamidoacet c acid (NEtFOSAA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorohexanesulfonic acid (PFHxS)	**3.4**		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
9-Chlorohexadecafluoro-3-oxanonane--sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105		70 - 130	07/03/26 14:17	07/06/26 22:27	1
13C2 PFHxA	107		70 - 130	07/03/26 14:17	07/06/26 22:27	1
13C2 PFDA	105		70 - 130	07/03/26 14:17	07/06/26 22:27	1
13C3-GenX	101		70 - 130	07/03/26 14:17	07/06/26 22:27	1

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-222716-2

Date Collected: 06/30/26 09:15
Matrix: Water
Date Received: 07/02/26 10:15

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		07/03/26 13:40	07/06/26 11:58	1
9-Chlorohexadecafluoro-3-oxanonane--sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Date Collected: 06/30/26 09:15
Date Received: 07/02/26 10:15

Lab Sample ID: 380-222716-2

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoro (2-ethoxyethane) sulfonic aci (PFEESA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		07/03/26 13:40	07/06/26 11:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C6 PFDA	*114*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C5 PFHxA	*114*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C4 PFHpA	*116*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C8 PFOA	*114*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C9 PFNA	*116*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C7 PFUnA	*118*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C2 PFDoA	*110*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C4 PFBA	*116*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C5 PFPeA	*120*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C3 PFBS	*115*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C3 PFHxS	*111*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C8 PFOS	*117*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C2-4:2-FTS	*119*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C2-6:2-FTS	*119*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*
13C2-8:2-FTS	*119*		*50 - 200*	*07/03/26 13:40*	*07/06/26 11:58*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
N-methylperfluorooctanesulfonamidoac etic acid (NMeFOSAA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
N-ethylperfluorooctanesulfonamidoacet c acid (NEtFOSAA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB HALAWA SHAFT VIEWING POOL
Date Collected: 06/30/26 09:15
Date Received: 07/02/26 10:15

Lab Sample ID: 380-222716-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
9-Chlorohexadecafluoro-3-oxanonane--sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		07/03/26 14:17	07/06/26 22:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*102*		*70 - 130*	*07/03/26 14:17*	*07/06/26 22:37*	*1*
13C2 PFHxA	*109*		*70 - 130*	*07/03/26 14:17*	*07/06/26 22:37*	*1*
13C2 PFDA	*99*		*70 - 130*	*07/03/26 14:17*	*07/06/26 22:37*	*1*
13C3-GenX	*99*		*70 - 130*	*07/03/26 14:17*	*07/06/26 22:37*	*1*

Action Limit Summary

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL — Lab Sample ID: 380-222716-1

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)	3.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2 0		ng/L	10	2 0	EPA 537 1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Client Sample ID: FB HALAWA SHAFT VIEWING POOL — Lab Sample ID: 380-222716-2

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

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)
380-222706-B-1-C MS	Matrix Spike	104	100	103	103
380-222706-B-1-D MSD	Matrix Spike Duplicate	108	107	102	102
380-222716-1	HALAWA SHAFT VIEWING POOL	105	107	105	101
380-222716-2	FB HALAWA SHAFT VIEWING POOL	102	109	99	99
LCS 380 237744/25 A	Lab Control Sample	108	110	104	106
MBL 380-237744/23-A	Method Blank	108	102	107	103
MRL 380-237744/24-A	Lab Control Sample	100	106	108	102

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: 380-222716-1
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)
380-222495-B-1-A MS	Matrix Spike	82	93	93	89	89	91	99	97
380-222495-C-1-A MSD	Matrix Spike Duplicate	59	52	68	65	59	54	61	69
380-222716-1	HALAWA SHAFT VIEWING POOL	101	111	114	117	119	119	121	113
380-222716-2	FB HALAWA SHAFT VIEWING POOL	90	114	114	116	114	116	118	110
LCS 380 237735/22 A	Lab Control Sample	105	113	112	110	110	111	114	113
MBL 380-237735/20-A	Method Blank	102	107	102	113	116	111	113	112
MRL 380-237735/21-A	Lab Control Sample	108	111	111	111	111	109	111	111

		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)
380-222495-B-1-A MS	Matrix Spike	92	94	115	107	112	113	110	114
380-222495-C-1-A MSD	Matrix Spike Duplicate	67	69	109	106	110	115	116	121
380-222716-1	HALAWA SHAFT VIEWING POOL	120	134	115	109	114	145	134	132
380-222716-2	FB HALAWA SHAFT VIEWING POOL	116	120	115	111	117	119	119	119
LCS 380-237735/22-A	Lab Control Sample	112	118	113	107	113	110	115	115
MBL 380-237735/20-A	Method Blank	110	113	114	108	111	113	117	113
MRL 380-237735/21-A	Lab Control Sample	115	118	111	108	113	120	115	121

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 380-237735/20-A
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237735

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
9-Chlorohexadecafluoro-3-oxanonane--sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoro (2-ethoxyethane) sulfonic aci (PFEESA)	<0.24		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0		ng/L		07/03/26 13:40	07/06/26 08:08	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*102*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C6 PFDA	*107*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C5 PFHxA	*102*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C4 PFHpA	*113*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C8 PFOA	*116*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C9 PFNA	*111*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C7 PFUnA	*113*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C2 PFDoA	*112*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C4 PFBA	*110*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C5 PFPeA	*113*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C3 PFBS	*114*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C3 PFHxS	*108*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C8 PFOS	*111*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C2-4:2-FTS	*113*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*
13C2-6:2-FTS	*117*		*50 - 200*	*07/03/26 13:40*	*07/06/26 08:08*	*1*

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

Lab Sample ID: MBL 380-237735/20-A
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237735

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-8:2-FTS	113		50 - 200	07/03/26 13:40	07/06/26 08:08	1

Lab Sample ID: LCS 380-237735/22-A
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237735

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	58.9	51.4		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	58.9	51.7		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	58.9	57.4		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	58.9	53.3		ng/L		90	70 - 130
Perfluorobutanesulfonic acid (PFBS)	58.9	52.1		ng/L		88	70 - 130
Perfluorodecanoic acid (PFDA)	58.9	53.2		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	58.9	55.4		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	58.9	53.5		ng/L		91	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	58.9	57.6		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	58.9	53.7		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	58.9	54.9		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	58.9	53.6		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	58.9	54.3		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	58.9	55.0		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	58.9	53.3		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	58.9	54.6		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	58.9	51.7		ng/L		88	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	58.9	49.4		ng/L		84	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	58.9	45.7		ng/L		78	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	58.9	51.5		ng/L		87	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	58.9	50.9		ng/L		86	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	58.9	49.8		ng/L		84	70 - 130
Perfluoropentanoic acid (PFPeA)	58.9	51.7		ng/L		88	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	58.9	53.7		ng/L		91	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	58.9	57.8		ng/L		98	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	113		50 - 200
13C5 PFHxA	112		50 - 200

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

Lab Sample ID: LCS 380-237735/22-A
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237735

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFHpA	*110*		*50 - 200*
13C8 PFOA	*110*		*50 - 200*
13C9 PFNA	*111*		*50 - 200*
13C7 PFUnA	*114*		*50 - 200*
13C2 PFDoA	*113*		*50 - 200*
13C4 PFBA	*112*		*50 - 200*
13C5 PFPeA	*118*		*50 - 200*
13C3 PFBS	*113*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*110*		*50 - 200*
13C2-6:2-FTS	*115*		*50 - 200*
13C2-8:2-FTS	*115*		*50 - 200*

Lab Sample ID: MRL 380-237735/21-A
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237735

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1 97	1.70	J	ng/L		86	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	1.74	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.88	J	ng/L		96	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.62	J	ng/L		83	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.77	J	ng/L		90	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	1.83	J	ng/L		93	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	1.81	J	ng/L		92	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	1.96	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	1.95	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	1.76	J	ng/L		90	50 - 150
Perfluorononanoic acid (PFNA)	1.97	1.87	J	ng/L		95	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	1.90	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	1.90	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	1.92	J	ng/L		98	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.01	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	1.87	J	ng/L		95	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	1.79	J	ng/L		91	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.02	J	ng/L		102	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	1.85	J	ng/L		94	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.72	J	ng/L		88	50 - 150

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

Lab Sample ID: MRL 380-237735/21-A
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237735

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoro-3-methoxypropanoic acid (PFMPA)			1.97	1.73	J	ng/L		88	50 - 150		
Perfluoro-4-methoxybutanoic acid (PFMBA)			1.97	1.70	J	ng/L		86	50 - 150		
Perfluoropentanoic acid (PFPeA)			1.97	1.81	J	ng/L		92	50 - 150		
Perfluoroheptanesulfonic acid (PFHpS)			1.97	1.87	J	ng/L		95	50 - 150		
Perfluoropentanesulfonic acid (PFPeS)			1.97	1.95	J	ng/L		99	50 - 150		

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*108*		*50 - 200*
13C6 PFDA	*111*		*50 - 200*
13C5 PFHxA	*111*		*50 - 200*
13C4 PFHpA	*111*		*50 - 200*
13C8 PFOA	*111*		*50 - 200*
13C9 PFNA	*109*		*50 - 200*
13C7 PFUnA	*111*		*50 - 200*
13C2 PFDoA	*111*		*50 - 200*
13C4 PFBA	*115*		*50 - 200*
13C5 PFPeA	*118*		*50 - 200*
13C3 PFBS	*111*		*50 - 200*
13C3 PFHxS	*108*		*50 - 200*
13C8 PFOS	*113*		*50 - 200*
13C2-4:2-FTS	*120*		*50 - 200*
13C2-6:2-FTS	*115*		*50 - 200*
13C2-8:2-FTS	*121*		*50 - 200*

Lab Sample ID: 380-222495-B-1-A MS
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 237735

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		118	99.6		ng/L		84	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	101		ng/L		85	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	108		ng/L		91	70 - 130		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	106		ng/L		90	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	99.0		ng/L		84	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		118	106		ng/L		90	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		118	108		ng/L		91	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		118	105		ng/L		89	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	108		ng/L		91	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		118	104		ng/L		88	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		118	106		ng/L		90	70 - 130		
Perfluorooctanesulfonic acid (PFOS)	<2.0		118	105		ng/L		89	70 - 130		

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

Lab Sample ID: 380-222495-B-1-A MS
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 237735

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	<2.0		118	107		ng/L		90	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		118	110		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	7.6		118	112		ng/L		88	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	106		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	102		ng/L		87	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	107		ng/L		91	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	95.4		ng/L		81	70 - 130
Perfluoro (2-ethoxyethane) sulfoni acid (PFEESA)	<2.0	F1 F2	118	128		ng/L		109	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	99.9		ng/L		85	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	100		ng/L		85	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		118	104		ng/L		87	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	104		ng/L		88	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	109		ng/L		92	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*82*		*50 - 200*
13C6 PFDA	*93*		*50 - 200*
13C5 PFHxA	*93*		*50 - 200*
13C4 PFHpA	*89*		*50 - 200*
13C8 PFOA	*89*		*50 - 200*
13C9 PFNA	*91*		*50 - 200*
13C7 PFUnA	*99*		*50 - 200*
13C2 PFDoA	*97*		*50 - 200*
13C4 PFBA	*92*		*50 - 200*
13C5 PFPeA	*94*		*50 - 200*
13C3 PFBS	*115*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*112*		*50 - 200*
13C2-4:2-FTS	*113*		*50 - 200*
13C2-6:2-FTS	*110*		*50 - 200*
13C2-8:2-FTS	*114*		*50 - 200*

Lab Sample ID: 380-222495-C-1-A MSD
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 237735

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundec ane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		118	103		ng/L		87	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanon ane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	102		ng/L		87	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	108		ng/L		92	70 - 130	1	30

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

Lab Sample ID: 380-222495-C-1-A MSD
Matrix: Water
Analysis Batch: 237820

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 237735

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		118	105		ng/L		89	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	105		ng/L		89	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		118	111		ng/L		94	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<2.0		118	109		ng/L		93	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	108		ng/L		92	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	111		ng/L		94	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		118	105		ng/L		89	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		118	109		ng/L		92	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		118	107		ng/L		91	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		118	110		ng/L		92	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	110		ng/L		93	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	7.6		118	116		ng/L		92	70 - 130	4	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	106		ng/L		89	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	104		ng/L		88	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	106		ng/L		89	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	104		ng/L		88	70 - 130	8	30
Perfluoro (2-ethoxyethane) sulfoni acid (PFEESA)	<2.0	F1 F2	118	192	E F1 F2	ng/L		162	70 - 130	40	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	99.2		ng/L		84	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	101		ng/L		86	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		118	108		ng/L		91	70 - 130	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	109		ng/L		92	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	110		ng/L		93	70 - 130	0	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C3 HFPO-DA	*59*		*50 - 200*
13C6 PFDA	*52*		*50 - 200*
13C5 PFHxA	*68*		*50 - 200*
13C4 PFHpA	*65*		*50 - 200*
13C8 PFOA	*59*		*50 - 200*
13C9 PFNA	*54*		*50 - 200*
13C7 PFUnA	*61*		*50 - 200*
13C2 PFDoA	*69*		*50 - 200*
13C4 PFBA	*67*		*50 - 200*
13C5 PFPeA	*69*		*50 - 200*
13C3 PFBS	*109*		*50 - 200*
13C3 PFHxS	*106*		*50 - 200*
13C8 PFOS	*110*		*50 - 200*
13C2-4:2-FTS	*115*		*50 - 200*
13C2-6:2-FTS	*116*		*50 - 200*
13C2-8:2-FTS	*121*		*50 - 200*

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

Lab Sample ID: MBL 380-237744/23-A
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237744

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
N-methylperfluorooctanesulfonamidoac etic acid (NMeFOSAA)	<0.57		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
N-ethylperfluorooctanesulfonamidoacet c acid (NEtFOSAA)	<0.41		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorononanoic acid (PFNA)	<0.39		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
9-Chlorohexadecafluoro-3-oxanonane- -sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
11-Chloroeicosafluoro-3-oxaundecane- 1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0		ng/L		07/03/26 14:17	07/06/26 21:20	1

Surrogate	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*108*		*70 - 130*	*07/03/26 14:17*	*07/06/26 21:20*	*1*
13C2 PFHxA	*102*		*70 - 130*	*07/03/26 14:17*	*07/06/26 21:20*	*1*
13C2 PFDA	*107*		*70 - 130*	*07/03/26 14:17*	*07/06/26 21:20*	*1*
13C3-GenX	*103*		*70 - 130*	*07/03/26 14:17*	*07/06/26 21:20*	*1*

Lab Sample ID: LCS 380-237744/25-A
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237744

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			24.7	23.6		ng/L		96	70 - 130		
Perfluorooctanesulfonic acid (PFOS)			24.7	26.5		ng/L		108	70 - 130		
Perfluoroundecanoic acid (PFUnA)			24.7	25.0		ng/L		102	70 - 130		
N-methylperfluorooctanesulfonam doacetic acid (NMeFOSAA)			24.7	25.3		ng/L		103	70 - 130		
N-ethylperfluorooctanesulfonamid acetic acid (NEtFOSAA)			24.7	24.9		ng/L		101	70 - 130		
Perfluorohexanoic acid (PFHxA)			24.7	25.1		ng/L		102	70 - 130		
Perfluorododecanoic acid (PFDoA)			24.7	26.6		ng/L		108	70 - 130		
Perfluorooctanoic acid (PFOA)			24.7	24.8		ng/L		101	70 - 130		
Perfluorodecanoic acid (PFDA)			24.7	24.0		ng/L		97	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)			24.7	26.2		ng/L		106	70 - 130		

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

Lab Sample ID: LCS 380-237744/25-A
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid (PFBS)	24.7	25.6		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	24.7	24.9		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	24.7	27.4		ng/L		111	70 - 130
Perfluorotetradecanoic acid (PFTA)	24.7	21.1		ng/L		86	70 - 130
Perfluorotridecanoic acid (PFTrDA)	24.7	25.7		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	24.7	25.9		ng/L		105	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	24.7	25.9		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	24.7	25.9		ng/L		105	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*108*		*70 - 130*
13C2 PFHxA	*110*		*70 - 130*
13C2 PFDA	*104*		*70 - 130*
13C3-GenX	*106*		*70 - 130*

Lab Sample ID: MRL 380-237744/24-A
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237744

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.71	J	ng/L		87	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	1.95	J	ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	1.92	J	ng/L		97	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.97	1.94	J	ng/L		98	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.97	1.95	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.07	J	ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	1.98	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	1.97	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.23	J	ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	2.03	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.09	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.97	1.91	J	ng/L		97	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.97	2.22	J	ng/L		112	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.97	2.08	J	ng/L		105	50 - 150

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

Lab Sample ID: MRL 380-237744/24-A
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237744

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.96	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.88	J	ng/L		95	50 - 150

Surrogate	*MRL %Recovery*	*MRL Qualifier*	*Limits*
d5-NEtFOSAA	*100*		*70 - 130*
13C2 PFHxA	*106*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*
13C3-GenX	*102*		*70 - 130*

Lab Sample ID: 380-222706-B-1-C MS
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 237744

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		24.6	23.2		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	25.8		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	26.2		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	24.9		ng/L		101	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	25.0		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	27.0		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	26.4		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		24.6	26.9		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		24.6	24.2		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	25.8		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	28.4		ng/L		111	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	26.2		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		24.6	27.0		ng/L		110	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	22.6		ng/L		92	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	27.1		ng/L		110	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.2		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	25.7		ng/L		104	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	25.4		ng/L		103	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
d5-NEtFOSAA	*104*		*70 - 130*
13C2 PFHxA	*100*		*70 - 130*
13C2 PFDA	*103*		*70 - 130*

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

Lab Sample ID: 380-222706-B-1-C MS
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 237744

Surrogate	MS %Recovery	MS Qualifier	Limits
13C3-GenX	103		70 - 130

Lab Sample ID: 380-222706-B-1-D MSD
Matrix: Water
Analysis Batch: 237850

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 237744

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		24.6	22.4		ng/L		91	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	26.1		ng/L		103	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	25.1		ng/L		102	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	25.8		ng/L		105	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	24.7		ng/L		101	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	25.6		ng/L		98	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	26.8		ng/L		109	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		24.6	25.9		ng/L		102	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	23.8		ng/L		97	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	25.2		ng/L		100	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	26.7		ng/L		104	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	25.9		ng/L		103	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	25.9		ng/L		105	70 - 130	4	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	22.3		ng/L		90	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	27.0		ng/L		110	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	24.5		ng/L		100	70 - 130	3	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.5		ng/L		100	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	24.2		ng/L		98	70 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
d5-NEtFOSAA	108		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	102		70 - 130
13C3-GenX	102		70 - 130

QC Association Summary

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 237735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222716-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-222716-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-237735/20-A	Method Blank	Total/NA	Water	533	
LCS 380-237735/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-237735/21-A	Lab Control Sample	Total/NA	Water	533	
380-222495-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-222495-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 237744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222716-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-222716-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-237744/23-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-237744/25-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-237744/24-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-222706-B-1-C MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-222706-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 237820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222716-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	237735
380-222716-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	237735
MBL 380-237735/20-A	Method Blank	Total/NA	Water	533	237735
LCS 380-237735/22-A	Lab Control Sample	Total/NA	Water	533	237735
MRL 380-237735/21-A	Lab Control Sample	Total/NA	Water	533	237735
380-222495-B-1-A MS	Matrix Spike	Total/NA	Water	533	237735
380-222495-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	237735

Analysis Batch: 237850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-222716-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	237744
380-222716-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	237744
MBL 380-237744/23-A	Method Blank	Total/NA	Water	EPA 537.1 V2	237744
LCS 380-237744/25-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	237744
MRL 380-237744/24-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	237744
380-222706-B-1-C MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	237744
380-222706-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	237744

Lab Chronicle

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-222716-1
Date Collected: 06/30/26 09:15
Matrix: Water
Date Received: 07/02/26 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			237735	N8NE	EA POM	07/03/26 13:40
Total/NA	Analysis	533		1	237820	SZ9R	EA POM	07/06/26 11:48
Total/NA	Prep	537.1 DW			237744	E9PK	EA POM	07/03/26 14:17
Total/NA	Analysis	EPA 537.1 V2		1	237850	SZ9R	EA POM	07/06/26 22:27

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-222716-2
Date Collected: 06/30/26 09:15
Matrix: Water
Date Received: 07/02/26 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			237735	N8NE	EA POM	07/03/26 13:40
Total/NA	Analysis	533		1	237820	SZ9R	EA POM	07/06/26 11:58
Total/NA	Prep	537.1 DW			237744	E9PK	EA POM	07/03/26 14:17
Total/NA	Analysis	EPA 537.1 V2		1	237850	SZ9R	EA POM	07/06/26 22:37

Laboratory References:

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

Accreditation/Certification Summary

Client: City & County of Honolulu
Job ID: 380-222716-1
Project/Site: RED-HILL
SDG: PFAS: Halawa Shaft Viewing Pool

Laboratory: Eurofins Pomona

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

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

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

Method Summary

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

Job ID: 380-222716-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-222716-1	HALAWA SHAFT VIEWING POOL	Water	06/30/26 09:15	07/02/26 10:15	Hawaii
380-222716-2	FB HALAWA SHAFT VIEWING POOL	Water	06/30/26 09:15	07/02/26 10:15	Hawaii

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Patrick Regan	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No:
Client Contact: Kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days): 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

380-222716 COC

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: NH4 Acetate

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)	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
			Preservation Code:				Y	Z		
HALAWA SHAFT VIEWING POOL	30-Jun-2026	9:15	G	Water			3	3		
FB HALAWA SHAFT VIEWING POOL	30-Jun-2026	9:15	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: [redacted] Date: Time: Method of Shipment: FedEx: 8738 5008 2508

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[redacted]	7/1/26 12:00	HBWS	~~MCAA~~ Mark Urrutia	7/2/26 1015	EEAP
	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: (651A) 2.0 + 0.0 = 2.0 gel-frozen

ORIGIN ID HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE 01JUL26
ACTWGT 56 00 LB
CAD 258050552/INET4535

BILL RECIPIENT

TO **EUROFINS RECEIVING DEPARTMENT**
EUROFINS DRINKING WATER TESTING
941 CORPORATE CENTER DR

POMONA CA 91768
(626) 386-1100 REF
INV
PO DEPT

58KJ2/DC4A/484B

FedEx Express

J26020801001uv

1 of 4

THU - 02 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 8738 5008 2508
MASTER

WM ONTA

91768
CA-US ONT

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-222716-1
SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 222716
List Number: 1
Creator: Del Rosario, Michael

List Source: Eurofins Pomona

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