

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-189551-1

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



Authorized for release by
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Definitions/Glossary

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-189551-1

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Job Narrative 380-189551-1

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 12/26/2025 9:59 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 1.9°C.

PFAS

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

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Detection Summary

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-189551-1

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)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.7		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-189551-2

No Detections.

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-189551-1

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C6 PFDA	99		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C5 PFHxA	100		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C4 PFHpA	102		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C8 PFOA	103		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C9 PFNA	104		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C7 PFUnA	102		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C2 PFDoA	102		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C4 PFBA	110		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C5 PFPeA	120		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C3 PFBS	107		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C3 PFHxS	108		50 - 200	12/28/25 14:25	12/29/25 22:30	1

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Client Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-189551-1

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	106		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C2-4:2-FTS	120		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C2-6:2-FTS	117		50 - 200	12/28/25 14:25	12/29/25 22:30	1
13C2-8:2-FTS	108		50 - 200	12/28/25 14:25	12/29/25 22:30	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		12/29/25 06:00	12/30/25 08:54	1
Perfluorooctanesulfonic acid (PFOS)	3.7		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130	12/29/25 06:00	12/30/25 08:54	1
13C2 PFHxA	105		70 - 130	12/29/25 06:00	12/30/25 08:54	1
13C2 PFDA	107		70 - 130	12/29/25 06:00	12/30/25 08:54	1
13C3-GenX	104		70 - 130	12/29/25 06:00	12/30/25 08:54	1

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-189551-2

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

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		12/28/25 14:25	12/29/25 22:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1

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Client Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-189551-2

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

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		12/28/25 14:25	12/29/25 22:39	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/28/25 14:25	12/29/25 22:39	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	85		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C6 PFDA	97		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C5 PFHxA	98		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C4 PFHpA	94		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C8 PFOA	99		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C9 PFNA	100		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C7 PFUnA	95		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C2 PFDoA	95		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C4 PFBA	105		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C5 PFPeA	101		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C3 PFBS	104		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C3 PFHxS	104		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C8 PFOS	105		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C2-4:2-FTS	113		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C2-6:2-FTS	111		50 - 200			12/28/25 14:25	12/29/25 22:39	1
13C2-8:2-FTS	106		50 - 200			12/28/25 14:25	12/29/25 22:39	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-189551-2

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

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		12/29/25 06:00	12/30/25 10:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/29/25 06:00	12/30/25 10:02	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	101		70 - 130			12/29/25 06:00	12/30/25 10:02	1
13C2 PFHxA	104		70 - 130			12/29/25 06:00	12/30/25 10:02	1
13C2 PFDA	109		70 - 130			12/29/25 06:00	12/30/25 10:02	1
13C3-GenX	99		70 - 130			12/29/25 06:00	12/30/25 10:02	1

Action Limit Summary

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-189551-1

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	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	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)	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)	3.7		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)	3.7		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: 380-189551-2

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	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	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: 380-189551-1
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)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-189551-1	Halawa Shaft Viewing Pool	101	105	107	104
380-189551-1 MS	Halawa Shaft Viewing Pool	104	111	110	109
380-189551-1 MSD	Halawa Shaft Viewing Pool	104	111	108	106
380-189551-2	Halawa Shaft Viewing Pool	101	104	109	99
	Blank				
LCS 380-194808/22-A	Lab Control Sample	93	102	108	95
MBL 380-194808/20-A	Method Blank	108	105	108	98
MRL 380-194808/21-A	Lab Control Sample	99	101	103	100
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: 380-189551-1
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)	PFD _o A (50-200)
380-188906-B-1-A MS	Matrix Spike	99	105	104	103	103	102	101	108
380-188906-C-1-A MSD	Matrix Spike Duplicate	99	105	109	104	105	107	106	105
380-189551-1	Halawa Shaft Viewing Pool	92	99	100	102	103	104	102	102
380-189551-2	Halawa Shaft Viewing Pool	85	97	98	94	99	100	95	95
	Blank								
LCS 380-194747/24-A	Lab Control Sample	96	105	102	107	105	105	100	106
MBL 380-194747/22-A	Method Blank	88	97	100	100	105	103	100	100
MRL 380-194747/23-A	Lab Control Sample	90	106	111	106	105	106	103	108
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFP _e A (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-188906-B-1-A MS	Matrix Spike	108	111	105	104	104	123	108	107
380-188906-C-1-A MSD	Matrix Spike Duplicate	108	111	116	112	113	118	116	113
380-189551-1	Halawa Shaft Viewing Pool	110	120	107	108	106	120	117	108
380-189551-2	Halawa Shaft Viewing Pool	105	101	104	104	105	113	111	106
	Blank								
LCS 380-194747/24-A	Lab Control Sample	109	106	107	110	108	112	115	105
MBL 380-194747/22-A	Method Blank	107	105	111	106	108	124	112	108
MRL 380-194747/23-A	Lab Control Sample	112	111	115	107	110	124	110	110
Surrogate Legend									
HFPODA = 13C3 HFPO-DA									
C6PFDA = 13C6 PFDA									
13C5PHA = 13C5 PFHxA									
C4PFHA = 13C4 PFHpA									
C8PFOA = 13C8 PFOA									
C9PFNA = 13C9 PFNA									
13C7PUA = 13C7 PFUnA									
PFD _o A = 13C2 PFD _o A									
PFBA = 13C4 PFBA									
PFP _e A = 13C5 PFP _e A									
C3PFBS = 13C3 PFBS									
C3PFHS = 13C3 PFHxS									
C8PFOS = 13C8 PFOS									
42FTS = 13C2-4:2-FTS									
62FTS = 13C2-6:2-FTS									
82FTS = 13C2-8:2-FTS									

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-194747/22-A

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 194747

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<0.30		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<0.30		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		12/28/25 14:25	12/29/25 18:53	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C6 PFDA	97		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C5 PFHxA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C4 PFHpA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C8 PFOA	105		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C9 PFNA	103		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C7 PFUnA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2 PFDoA	100		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C4 PFBA	107		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C5 PFPeA	105		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C3 PFBS	111		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C3 PFHxS	106		50 - 200	12/28/25 14:25	12/29/25 18:53	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-194747/22-A

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 194747

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	108		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2-4:2-FTS	124		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2-6:2-FTS	112		50 - 200	12/28/25 14:25	12/29/25 18:53	1
13C2-8:2-FTS	108		50 - 200	12/28/25 14:25	12/29/25 18:53	1

Lab Sample ID: LCS 380-194747/24-A

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 194747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	55.4		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	56.5		ng/L		94	70 - 130
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	60.4	57.0		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	57.3		ng/L		95	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	58.7		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	58.3		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	56.9		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.4	58.2		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	55.3		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	59.8		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	60.4	58.1		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	57.2		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	59.4		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	58.0		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	57.3		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	60.5		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	58.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	56.8		ng/L		94	70 - 130
Nonfluoro-3,6-dioxahexanoic acid (NFDHA)	60.4	56.2		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.4	56.3		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	61.9		ng/L		103	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	60.5		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	59.9		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	58.6		ng/L		97	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-194747/24-A

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 194747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.4	54.0		ng/L		90	70 - 130
		LCS	LCS				
		%Recovery	Qualifier	Limits			
13C3 HFPO-DA	96			50 - 200			
13C6 PFDA	105			50 - 200			
13C5 PFHxA	102			50 - 200			
13C4 PFHpA	107			50 - 200			
13C8 PFOA	105			50 - 200			
13C9 PFNA	105			50 - 200			
13C7 PFUnA	100			50 - 200			
13C2 PFDoA	106			50 - 200			
13C4 PFBA	109			50 - 200			
13C5 PFPeA	106			50 - 200			
13C3 PFBS	107			50 - 200			
13C3 PFHxS	110			50 - 200			
13C8 PFOS	108			50 - 200			
13C2-4:2-FTS	112			50 - 200			
13C2-6:2-FTS	115			50 - 200			
13C2-8:2-FTS	105			50 - 200			

Lab Sample ID: MRL 380-194747/23-A

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 194747

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.80	J	ng/L		89	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.72	J	ng/L		86	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.91	J	ng/L		95	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.85	J	ng/L		92	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.78	J	ng/L		89	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.87	J	ng/L		93	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.94	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.96	J	ng/L		97	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.96	J	ng/L		98	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-194747/23-A

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 194747

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.04	J	ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	1.96	J	ng/L		98	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.19	J	ng/L		109	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.82	J	ng/L		91	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.72	J	ng/L		86	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.88	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	MRL Limits
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	106		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	110		50 - 200
13C2-4:2-FTS	124		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	110		50 - 200

Lab Sample ID: 380-188906-B-1-A MS

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 194747

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	55.9		ng/L		93	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	57.7		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.6		ng/L		97	70 - 130

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QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-188906-B-1-A MS

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 194747

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.2	59.9		ng/L		99	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	57.3		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	58.4		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.8		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	58.0		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	58.7		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	57.1		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	60.9		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	57.8		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	58.5		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	62.7		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	57.0		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.0		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	60.9		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.2		ng/L		102	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	53.8		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		60.2	58.6		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	58.7		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.4		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.5		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	59.8		ng/L		99	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	59.3		ng/L		98	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	101		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	104		50 - 200

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QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-188906-B-1-A MS

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 194747

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	123		50 - 200
13C2-6:2-FTS	108		50 - 200
13C2-8:2-FTS	107		50 - 200

Lab Sample ID: 380-188906-C-1-A MSD

Matrix: Water

Analysis Batch: 194911

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 194747

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	55.2		ng/L		92	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		60.2	57.1		ng/L		95	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	57.7		ng/L		96	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	59.3		ng/L		99	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	56.7		ng/L		94	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	56.7		ng/L		94	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.8		ng/L		101	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	59.5		ng/L		99	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	57.7		ng/L		96	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	54.0		ng/L		90	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	57.7		ng/L		96	70 - 130	6	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	57.4		ng/L		95	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	59.4		ng/L		99	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.8		ng/L		99	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	60.7		ng/L		101	70 - 130	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	61.0		ng/L		101	70 - 130	2	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	62.6		ng/L		104	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	59.8		ng/L		99	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	52.7		ng/L		87	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	57.2		ng/L		95	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.4		ng/L		99	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMPA)	<2.0		60.2	60.0		ng/L		100	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.5		ng/L		95	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	58.5		ng/L		97	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	57.5		ng/L		95	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	104		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	116		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	113		50 - 200
13C2-4:2-FTS	118		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	113		50 - 200

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

Lab Sample ID: MBL 380-194808/20-A
Matrix: Water
Analysis Batch: 194978

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 194808

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/29/25 06:00	12/30/25 08:24	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	108		70 - 130			12/29/25 06:00	12/30/25 08:24	1
13C2 PFHxA	105		70 - 130			12/29/25 06:00	12/30/25 08:24	1
13C2 PFDA	108		70 - 130			12/29/25 06:00	12/30/25 08:24	1

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QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-194808/20-A

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 194808

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	98		70 - 130	12/29/25 06:00	12/30/25 08:24	1

Lab Sample ID: LCS 380-194808/22-A

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 194808

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	50.2	47.1		ng/L		94	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.2	52.3		ng/L		104	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	53.5		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	48.8		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.2	46.9		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	50.4		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	53.2		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	51.8		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	52.3		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.2	51.9		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.2	51.6		ng/L		103	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	50.7		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	50.2	53.4		ng/L		106	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.2	46.3		ng/L		92	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	57.4		ng/L		114	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.2	51.8		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.2	51.5		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.2	47.9		ng/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	93		70 - 130
13C2 PFHxA	102		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	95		70 - 130

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-194808/21-A

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 194808

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	2.01	1.87	J	ng/L		93	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.17	J	ng/L		108	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.12	J	ng/L		105	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.16	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.29	J	ng/L		114	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.79	J	ng/L		89	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.27	J	ng/L		113	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.03	J	ng/L		101	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.85	J	ng/L		92	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.10	J	ng/L		104	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	101		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	100		70 - 130

Lab Sample ID: 380-189551-1 MS

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 194808

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		50.2	50.5		ng/L		101	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	3.7		50.2	56.6		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	50.8		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	52.0		ng/L		104	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-189551-1 MS

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 194808

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		50.2	50.4		ng/L		100	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	52.5		ng/L		103	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	50.0		ng/L		100	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		50.2	53.1		ng/L		103	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		50.2	52.7		ng/L		105	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	3.7		50.2	57.6		ng/L		107	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	55.2		ng/L		110	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	52.1		ng/L		103	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		50.2	50.8		ng/L		101	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	39.6		ng/L		79	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	54.7		ng/L		109	70 - 130		
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	53.2		ng/L		106	70 - 130		
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	51.8		ng/L		103	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	50.9		ng/L		101	70 - 130		

Lab Sample ID: 380-189551-1 MSD

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 194808

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		50.2	50.2		ng/L		100	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	3.7		50.2	54.6		ng/L		101	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	51.7		ng/L		103	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	49.9		ng/L		99	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<2.0		50.2	49.2		ng/L		98	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	52.5		ng/L		103	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	50.9		ng/L		101	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	52.6		ng/L		102	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	51.1		ng/L		102	70 - 130	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-189551-1 MSD

Matrix: Water

Analysis Batch: 194978

Client Sample ID: Halawa Shaft Viewing Pool

Prep Type: Total/NA

Prep Batch: 194808

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	3.7		50.2	53.5		ng/L		99	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.2	50.0		ng/L		100	70 - 130	10	30
Perfluoroheptanoic acid (PFHpA)	<2.0		50.2	52.1		ng/L		103	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		50.2	52.5		ng/L		105	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		50.2	37.0		ng/L		74	70 - 130	7	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.2	53.0		ng/L		106	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		50.2	52.0		ng/L		104	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.2	46.1		ng/L		92	70 - 130	12	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.2	49.1		ng/L		98	70 - 130	4	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	104		70 - 130								
13C2 PFHxA	111		70 - 130								
13C2 PFDA	108		70 - 130								
13C3-GenX	106		70 - 130								

QC Association Summary

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 194747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189551-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	
380-189551-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	533	
MBL 380-194747/22-A	Method Blank	Total/NA	Water	533	
LCS 380-194747/24-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-194747/23-A	Lab Control Sample	Total/NA	Water	533	
380-188906-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-188906-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 194808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189551-1	Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	
380-189551-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	537.1 DW	
MBL 380-194808/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-194808/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-194808/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-189551-1 MS	Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	
380-189551-1 MSD	Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	

Analysis Batch: 194911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189551-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	194747
380-189551-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	533	194747
MBL 380-194747/22-A	Method Blank	Total/NA	Water	533	194747
LCS 380-194747/24-A	Lab Control Sample	Total/NA	Water	533	194747
MRL 380-194747/23-A	Lab Control Sample	Total/NA	Water	533	194747
380-188906-B-1-A MS	Matrix Spike	Total/NA	Water	533	194747
380-188906-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	194747

Analysis Batch: 194978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-189551-1	Halawa Shaft Viewing Pool	Total/NA	Water	537.1	194808
380-189551-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	537.1	194808
MBL 380-194808/20-A	Method Blank	Total/NA	Water	537.1	194808
LCS 380-194808/22-A	Lab Control Sample	Total/NA	Water	537.1	194808
MRL 380-194808/21-A	Lab Control Sample	Total/NA	Water	537.1	194808
380-189551-1 MS	Halawa Shaft Viewing Pool	Total/NA	Water	537.1	194808
380-189551-1 MSD	Halawa Shaft Viewing Pool	Total/NA	Water	537.1	194808

Lab Chronicle

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

Job ID: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-189551-1

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			194747	E9PK	EA POM	12/28/25 14:25
Total/NA	Analysis	533		1	194911	M7ML	EA POM	12/29/25 22:30
Total/NA	Prep	537.1 DW			194808	G9MN	EA POM	12/29/25 06:00
Total/NA	Analysis	537.1		1	194978	SZ9R	EA POM	12/30/25 08:54

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-189551-2

Date Collected: 12/23/25 09:30

Matrix: Water

Date Received: 12/26/25 09:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			194747	E9PK	EA POM	12/28/25 14:25
Total/NA	Analysis	533		1	194911	M7ML	EA POM	12/29/25 22:39
Total/NA	Prep	537.1 DW			194808	G9MN	EA POM	12/29/25 06:00
Total/NA	Analysis	537.1		1	194978	SZ9R	EA POM	12/30/25 10:02

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: 380-189551-1
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

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Method Summary

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

Job ID: 380-189551-1
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: 380-189551-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-189551-1	Halawa Shaft Viewing Pool	Water	12/23/25 09:30	12/26/25 09:59	Hawaii
380-189551-2	Halawa Shaft Viewing Pool Blank	Water	12/23/25 09:30	12/26/25 09:59	Hawaii

Client Information Client Contact: Kirk Iwamoto Company: City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu, HI 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.euronisus.com Carrier Tracking No(s): 380-27941-2757.2 Page: Page 2 of 2 Job #:		Due Date Requested: TAT Requested (days): RUSH Compliance Project: ☐ No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:	
Sample Identification Halawa Shaft Viewing Pool Halawa Shaft Viewing Pool Blank		Sample Date 23-Dec-2025 23-Dec-2025	Sample Time 0930 1100	Sample Type G G	Matrix (Preservative, Preservative, Preservative) Water Water
Analysis Requested Field Filtered Sample (Yes or No) ☒ Perform MS/MSD (Yes or No) ☒ SUBCONTRACT - 625 PAH Physile LL (EAL) + TICs 8015B_GRO_LL - (MOD) GRO 8015B_DRO_LL - C8 - HNL Ranges: C10-C24/C24-C38/C8-C18 625.2_PREC - (MOD) 625plus PLUS TICs 637.1_DW_PREC - 637.1 Full List 633 - All Analytes		Total Number of Containers: ☒			
Special Instructions/Note: 380-189551 COC		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			

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: 12/23/25 1100 Company: HBWS	Date/Time: 12/23/25 0959 Company: RGA	Date/Time: 12/23/25 0959 Company: RGA
Date/Time: 12/23/25 1100 Company: HBWS	Date/Time: 12/23/25 0959 Company: RGA	Date/Time: 12/23/25 0959 Company: RGA
Relinquished by:		
Custody Seal No. A Yes A No		

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-189551-1

SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 189551

List Number: 1

Creator: Hernandez, Orlando

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	