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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
630 South Beretania Street
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-185049-1

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: 380-185049-1
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: 380-185049-1

Job ID: 380-185049-1

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Job Narrative 380-185049-1

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 11/28/2025 10:12 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 2.6°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: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-185049-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

Lab Sample ID: 380-185049-2

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: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-185049-1

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

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		12/04/25 09:03	12/05/25 10:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 10:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C6 PFDA	97		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C5 PFHxA	98		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C4 PFHpA	98		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C8 PFOA	102		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C9 PFNA	100		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C7 PFUnA	89		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C2 PFDoA	81		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C4 PFBA	99		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C5 PFPeA	107		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C3 PFBS	107		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C3 PFHxS	101		50 - 200	12/04/25 09:03	12/05/25 10:54	1

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Client Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-185049-1

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	103		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C2-4:2-FTS	122		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C2-6:2-FTS	107		50 - 200	12/04/25 09:03	12/05/25 10:54	1
13C2-8:2-FTS	96		50 - 200	12/04/25 09:03	12/05/25 10:54	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		12/02/25 01:08	12/02/25 19:04	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	105		70 - 130			12/02/25 01:08	12/02/25 19:04	1
13C2 PFHxA	111		70 - 130			12/02/25 01:08	12/02/25 19:04	1
13C2 PFDA	106		70 - 130			12/02/25 01:08	12/02/25 19:04	1
13C3-GenX	118		70 - 130			12/02/25 01:08	12/02/25 19:04	1

Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

Lab Sample ID: 380-185049-2

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

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 (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1

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Client Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

Lab Sample ID: 380-185049-2

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

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		12/04/25 09:03	12/05/25 11:04	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/04/25 09:03	12/05/25 11:04	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C6 PFDA	100		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C5 PFHxA	101		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C4 PFHpA	102		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C8 PFOA	102		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C9 PFNA	101		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C7 PFUnA	98		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C2 PFDoA	96		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C4 PFBA	99		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C5 PFPeA	104		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C3 PFBS	102		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C3 PFHxS	98		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C8 PFOS	103		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C2-4:2-FTS	118		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C2-6:2-FTS	104		50 - 200	12/04/25 09:03	12/05/25 11:04	1
13C2-8:2-FTS	99		50 - 200	12/04/25 09:03	12/05/25 11:04	1

Client Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

Lab Sample ID: 380-185049-2

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

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		12/02/25 01:08	12/02/25 19:13	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/02/25 01:08	12/02/25 19:13	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130			12/02/25 01:08	12/02/25 19:13	1
13C2 PFHxA	99		70 - 130			12/02/25 01:08	12/02/25 19:13	1
13C2 PFDA	100		70 - 130			12/02/25 01:08	12/02/25 19:13	1
13C3-GenX	114		70 - 130			12/02/25 01:08	12/02/25 19:13	1

Action Limit Summary

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-185049-1

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)	3.3		ng/L	10		2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10		2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		ng/L	4		2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4		2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10		2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		ng/L	4		2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4		2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		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: 380-185049-2

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: 380-185049-1
 SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-185048-B-1-A MS	Matrix Spike	106	110	109	114
380-185048-C-1-A MSD	Matrix Spike Duplicate	108	110	111	114
380-185049-1	HALAWA SHAFT VIEWING POOL	105	111	106	118
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	95	99	100	114
LCS 380-189424/22-A	Lab Control Sample	99	106	105	102
MBL 380-189424/20-A	Method Blank	110	121	123	127
MRL 380-189424/21-A	Lab Control Sample	104	97	100	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: 380-185049-1
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)
380-184988-B-1-A LMS	Matrix Spike	91	92	93	94	95	91	92	95
380-184988-C-1-A LMSD	Matrix Spike Duplicate	80	82	82	82	84	80	81	83
380-185049-1	HALAWA SHAFT VIEWING POOL	99	97	98	98	102	100	89	81
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	93	100	101	102	102	101	98	96
LCS 380-190097/22-A	Lab Control Sample	93	100	91	93	96	97	99	102
MBL 380-190097/20-A	Method Blank	80	92	90	92	94	96	94	96
MRL 380-190097/21-A	Lab Control Sample	84	94	92	94	98	96	96	97

		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)
380-184988-B-1-A LMS	Matrix Spike	94	101	106	104	103	125	127	112
380-184988-C-1-A LMSD	Matrix Spike Duplicate	84	87	98	101	100	113	112	102
380-185049-1	HALAWA SHAFT VIEWING POOL	99	107	107	101	103	122	107	96
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	99	104	102	98	103	118	104	99
LCS 380-190097/22-A	Lab Control Sample	97	100	107	104	106	102	98	103
MBL 380-190097/20-A	Method Blank	92	94	105	102	104	115	108	108
MRL 380-190097/21-A	Lab Control Sample	94	96	104	103	105	116	106	104

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

QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-190097/20-A
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190097

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		12/04/25 09:03	12/05/25 07:14	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C6 PFDA	92		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C5 PFHxA	90		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C4 PFHpA	92		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C8 PFOA	94		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C9 PFNA	96		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C7 PFUnA	94		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C2 PFDoA	96		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C4 PFBA	92		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C5 PFPeA	94		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C3 PFBS	105		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C3 PFHxS	102		50 - 200	12/04/25 09:03	12/05/25 07:14	1

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QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-190097/20-A
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190097

<i>Isotope Dilution</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>				
13C8 PFOS	104		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C2-4:2-FTS	115		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C2-6:2-FTS	108		50 - 200	12/04/25 09:03	12/05/25 07:14	1
13C2-8:2-FTS	108		50 - 200	12/04/25 09:03	12/05/25 07:14	1

Lab Sample ID: LCS 380-190097/22-A
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190097

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	121	112		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	121	115		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	121	118		ng/L		98	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	121	123		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	121	112		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	121	114		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	121	114		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	121	115		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	121	114		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	121	119		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	121	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	121	115		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	121	118		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	121	118		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	121	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	121	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	121	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	121	116		ng/L		96	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	121	129		ng/L		107	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	121	111		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	121	124		ng/L		103	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	121	119		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	121	113		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	121	114		ng/L		94	70 - 130

QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-190097/22-A
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	121	116		ng/L		96	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	93		50 - 200				
13C6 PFDA	100		50 - 200				
13C5 PFHxA	91		50 - 200				
13C4 PFHpA	93		50 - 200				
13C8 PFOA	96		50 - 200				
13C9 PFNA	97		50 - 200				
13C7 PFUnA	99		50 - 200				
13C2 PFDoA	102		50 - 200				
13C4 PFBA	97		50 - 200				
13C5 PFPeA	100		50 - 200				
13C3 PFBS	107		50 - 200				
13C3 PFHxS	104		50 - 200				
13C8 PFOS	106		50 - 200				
13C2-4:2-FTS	102		50 - 200				
13C2-6:2-FTS	98		50 - 200				
13C2-8:2-FTS	103		50 - 200				

Lab Sample ID: MRL 380-190097/21-A
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190097

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.92	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.03	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.01	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.05	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.05	J	ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.97	J	ng/L		98	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.06	J	ng/L		103	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-190097/21-A
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190097

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.09	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.12	J	ng/L		106	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.18	J	ng/L		109	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.05	J	ng/L		102	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	1.97	J	ng/L		99	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.85	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.90	J	ng/L		95	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.94	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	84		50 - 200
13C6 PFDA	94		50 - 200
13C5 PFHxA	92		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	98		50 - 200
13C9 PFNA	96		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	97		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	96		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	116		50 - 200
13C2-6:2-FTS	106		50 - 200
13C2-8:2-FTS	104		50 - 200

Lab Sample ID: 380-184988-B-1-A LMS
Matrix: Water
Analysis Batch: 190373

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 190097

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.01	2.08		ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.01	2.02		ng/L		100	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.01	1.92	J	ng/L		96	50 - 150

QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-184988-B-1-A LMS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 190373

Prep Batch: 190097

Analyte	Sample	Sample	Spike	LMS	LMS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		2.01	2.17		ng/L		108	50 - 150
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.01	2.89		ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	<2.0		2.01	2.02		ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	<2.0		2.01	2.11		ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	<2.0		2.01	2.16		ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.0		2.01	3.90		ng/L		95	50 - 150
Perfluorohexanoic acid (PFHxA)	<2.0		2.01	2.25		ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	<2.0		2.01	2.07		ng/L		103	50 - 150
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.01	3.12		ng/L		100	50 - 150
Perfluorooctanoic acid (PFOA)	<2.0		2.01	2.53		ng/L		95	50 - 150
Perfluoroundecanoic acid (PFUnA)	<2.0		2.01	2.07		ng/L		103	50 - 150
Perfluorobutanoic acid (PFBA)	<2.0		2.01	2.59		ng/L		129	50 - 150
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.01	2.04		ng/L		102	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.01	2.03		ng/L		101	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.01	2.23		ng/L		111	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.01	2.16		ng/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.01	2.04		ng/L		102	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.01	2.08		ng/L		104	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.01	2.03		ng/L		101	50 - 150
Perfluoropentanoic acid (PFPeA)	<2.0		2.01	2.22		ng/L		110	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.01	2.03		ng/L		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.01	2.26		ng/L		113	50 - 150

Isotope Dilution	LMS LMS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	91		50 - 200
13C6 PFDA	92		50 - 200
13C5 PFHxA	93		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	95		50 - 200
13C9 PFNA	91		50 - 200
13C7 PFUnA	92		50 - 200
13C2 PFDoA	95		50 - 200
13C4 PFBA	94		50 - 200
13C5 PFPeA	101		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	103		50 - 200

QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-184988-B-1-A LMS

Matrix: Water

Analysis Batch: 190373

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 190097

Isotope Dilution	LMS LMS		Limits
	%Recovery	Qualifier	
13C2-4:2-FTS	125		50 - 200
13C2-6:2-FTS	127		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-184988-C-1-A LMSD

Matrix: Water

Analysis Batch: 190373

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 190097

Analyte	Sample	Sample	Spike	LMSD		Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.01	1.97	J	ng/L		98	50 - 150	6	50
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.01	2.00		ng/L		99	50 - 150	1	50
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.01	1.86	J	ng/L		92	50 - 150	4	50
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.01	1.94	J	ng/L		96	50 - 150	12	50
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.01	2.92		ng/L		103	50 - 150	1	50
Perfluorodecanoic acid (PFDA)	<2.0		2.01	2.00		ng/L		100	50 - 150	1	50
Perfluorododecanoic acid (PFDoA)	<2.0		2.01	2.19		ng/L		109	50 - 150	4	50
Perfluoroheptanoic acid (PFHpA)	<2.0		2.01	2.15		ng/L		107	50 - 150	0	50
Perfluorohexanesulfonic acid (PFHxS)	2.0		2.01	3.81		ng/L		91	50 - 150	2	50
Perfluorohexanoic acid (PFHxA)	<2.0		2.01	2.35		ng/L		117	50 - 150	4	50
Perfluorononanoic acid (PFNA)	<2.0		2.01	2.05		ng/L		102	50 - 150	1	50
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.01	3.13		ng/L		101	50 - 150	0	50
Perfluorooctanoic acid (PFOA)	<2.0		2.01	2.50		ng/L		94	50 - 150	1	50
Perfluoroundecanoic acid (PFUnA)	<2.0		2.01	2.08		ng/L		104	50 - 150	1	50
Perfluorobutanoic acid (PFBA)	<2.0		2.01	2.59		ng/L		129	50 - 150	0	50
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.01	2.11		ng/L		105	50 - 150	3	50
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.01	2.26		ng/L		112	50 - 150	11	50
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.01	2.23		ng/L		111	50 - 150	0	50
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.01	2.03		ng/L		101	50 - 150	6	50
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.01	2.15		ng/L		107	50 - 150	5	50
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.01	2.06		ng/L		102	50 - 150	1	50
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.01	2.06		ng/L		102	50 - 150	1	50
Perfluoropentanoic acid (PFPeA)	<2.0		2.01	2.21		ng/L		110	50 - 150	0	50
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.01	1.98	J	ng/L		99	50 - 150	3	50
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.01	2.26		ng/L		112	50 - 150	0	50

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QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	LMSD LMSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	80		50 - 200
13C6 PFDA	82		50 - 200
13C5 PFHxA	82		50 - 200
13C4 PFHpA	82		50 - 200
13C8 PFOA	84		50 - 200
13C9 PFNA	80		50 - 200
13C7 PFUnA	81		50 - 200
13C2 PFDoA	83		50 - 200
13C4 PFBA	84		50 - 200
13C5 PFPeA	87		50 - 200
13C3 PFBS	98		50 - 200
13C3 PFHxS	101		50 - 200
13C8 PFOS	100		50 - 200
13C2-4:2-FTS	113		50 - 200
13C2-6:2-FTS	112		50 - 200
13C2-8:2-FTS	102		50 - 200

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

Lab Sample ID: MBL 380-189424/20-A
Matrix: Water
Analysis Batch: 189493

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 189424

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		12/02/25 01:08	12/02/25 15:24	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/02/25 01:08	12/02/25 15:24	1

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	110		70 - 130	12/02/25 01:08	12/02/25 15:24	1
13C2 PFHxA	121		70 - 130	12/02/25 01:08	12/02/25 15:24	1
13C2 PFDA	123		70 - 130	12/02/25 01:08	12/02/25 15:24	1

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QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-189424/20-A
Matrix: Water
Analysis Batch: 189493

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 189424

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	127	Qualifier	70 - 130	12/02/25 01:08	12/02/25 15:24	1

Lab Sample ID: LCS 380-189424/22-A
Matrix: Water
Analysis Batch: 189493

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 189424

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>			<i>Limits</i>	<i>Limits</i>
Hexafluoropropylene Oxide	25.1	23.9		ng/L		95	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	25.1	27.4		ng/L		110	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	27.7		ng/L		111	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	23.8		ng/L		95	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	24.2		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	25.8		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	27.2		ng/L		108	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	25.7		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	25.8		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	27.7		ng/L		111	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	27.2		ng/L		109	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	26.8		ng/L		107	70 - 130
Perfluorononanoic acid (PFNA)	25.1	26.7		ng/L		107	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	27.8		ng/L		111	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	29.1		ng/L		116	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	28.0		ng/L		112	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	26.8		ng/L		107	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	24.8		ng/L		99	70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	99		70 - 130
13C2 PFHxA	106		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	102		70 - 130

QC Sample Results

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

Job ID: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-189424/21-A
Matrix: Water
Analysis Batch: 189493

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 189424

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.36	J	ng/L		118	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.36	J	ng/L		118	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.12	J	ng/L		106	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.29	J	ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.21	J	ng/L		111	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.31	J	ng/L		115	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.23	J	ng/L		112	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.38	J	ng/L		119	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.23	J	ng/L		112	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.21	J	ng/L		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.10	J	ng/L		105	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	104		70 - 130
13C2 PFHxA	97		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	100		70 - 130

Lab Sample ID: 380-185048-B-1-A MS
Matrix: Water
Analysis Batch: 189493

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 189424

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		50.2	51.9		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.2		50.2	61.3		ng/L		112	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	56.7		ng/L		113	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	50.9		ng/L		101	70 - 130

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QC Association Summary

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

Job ID: 380-185049-1
 SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 189424

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-185049-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	537.1 DW	
MBL 380-189424/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-189424/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-189424/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-185048-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-185048-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 189493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-185049-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1	189424
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	537.1	189424
MBL 380-189424/20-A	Method Blank	Total/NA	Water	537.1	189424
LCS 380-189424/22-A	Lab Control Sample	Total/NA	Water	537.1	189424
MRL 380-189424/21-A	Lab Control Sample	Total/NA	Water	537.1	189424
380-185048-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	189424
380-185048-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	189424

Prep Batch: 190097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-185049-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	533	
MBL 380-190097/20-A	Method Blank	Total/NA	Water	533	
LCS 380-190097/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-190097/21-A	Lab Control Sample	Total/NA	Water	533	
380-184988-B-1-A LMS	Matrix Spike	Total/NA	Water	533	
380-184988-C-1-A LMSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 190373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-185049-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	190097
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	533	190097
MBL 380-190097/20-A	Method Blank	Total/NA	Water	533	190097
LCS 380-190097/22-A	Lab Control Sample	Total/NA	Water	533	190097
MRL 380-190097/21-A	Lab Control Sample	Total/NA	Water	533	190097
380-184988-B-1-A LMS	Matrix Spike	Total/NA	Water	533	190097
380-184988-C-1-A LMSD	Matrix Spike Duplicate	Total/NA	Water	533	190097

Lab Chronicle

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

Job ID: 380-185049-1
 SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-185049-1

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			190097	X5FS	EA POM	12/04/25 09:03
Total/NA	Analysis	533		1	190373	SZ9R	EA POM	12/05/25 10:54
Total/NA	Prep	537.1 DW			189424	G9MN	EA POM	12/02/25 01:08
Total/NA	Analysis	537.1		1	189493	Y5FM	EA POM	12/02/25 19:04

Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

Lab Sample ID: 380-185049-2

Date Collected: 11/25/25 09:43

Matrix: Water

Date Received: 11/28/25 10:12

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			190097	X5FS	EA POM	12/04/25 09:03
Total/NA	Analysis	533		1	190373	SZ9R	EA POM	12/05/25 11:04
Total/NA	Prep	537.1 DW			189424	G9MN	EA POM	12/02/25 01:08
Total/NA	Analysis	537.1		1	189493	Y5FM	EA POM	12/02/25 19:13

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: 380-185049-1
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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Method Summary

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

Job ID: 380-185049-1
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: 380-185049-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-185049-1	HALAWA SHAFT VIEWING POOL	Water	11/25/25 09:43	11/28/25 10:12	Hawaii
380-185049-2	HALAWA SHAFT VIEWING POOL Blank	Water	11/25/25 09:43	11/28/25 10:12	Hawaii

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

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

Chain of Custody Record



Client Information
 Client Contact: Kirk Iwamoto
 City & County of Honolulu
 Address: 630 South Beretama Street, Chemistry Lab
 City: Honolulu
 State, Zip: HI, 96843
 Phone: 808-748-5840 (tel)
 Email: kiwamoto@hbws.org
 Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill
 Site: SSO/WF

Lab PM: Arada, Rachelle
E-Mail: Rachelle.Arada@et.euronisus.com
Phone: +1 808 748 5640
City & County of Honolulu
Address: 630 South Beretama Street, Chemistry Lab
City: Honolulu
State, Zip: HI, 96843
Phone: 808-748-5840 (tel)
Email: kiwamoto@hbws.org
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill
Site: SSO/WF

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Soil, Sediment, Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Subcontract - 625 PAH Physia LL (EAL) + TICS	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_CS - HNL Ranges - C10-C24/C24-C36/C8-C18	825.2_PREG - (MOD) 825plus PLUS TICS	837.1_OW_PREG - 837.1 Full Lat	833 - All Analytes	Analysis Requested	Carrier Tracking Note(s)	Lab PM:	City & County of Honolulu	Address:	City:	State, Zip:	Phone:	Email:	Project Name:	Site:
Halawa Shaft Viewing Pool	25-Nov-2025	0943	G	Water	X	X									Arada, Rachelle	City & County of Honolulu	630 South Beretama Street, Chemistry Lab	Honolulu	HI, 96843	808-748-5840 (tel)	kiwamoto@hbws.org	RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	SSO/WF
Halawa Shaft Viewing Pool Blank	25-Nov-2025	L	G	Water	X	X									Arada, Rachelle	City & County of Honolulu	630 South Beretama Street, Chemistry Lab	Honolulu	HI, 96843	808-748-5840 (tel)	kiwamoto@hbws.org	RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	SSO/WF

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: [Redacted]
 Relinquished by: [Redacted] Date: 11/25/25 11:00
 Relinquished by: [Redacted] Date: [Redacted]
 Relinquished by: [Redacted] Date: [Redacted]

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

Method of Shipment: FED EX 88604 0524 4759
 Date/Time: 11/28/25 10:12
 Received by: [Signature]
 Date/Time: [Redacted]
 Received by: [Redacted]
 Date/Time: [Redacted]

Cooler Temperature(s) °C and Other Remarks: FSD 2.6-0.0-2.6
 Company: HBWS
 Company: [Redacted]
 Company: [Redacted]



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-185049-1

SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 185049

List Number: 1

Creator: Edrosa, Rey

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	

