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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-186130-1

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: 380-186130-1
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: 380-186130-1

Job ID: 380-186130-1

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Job Narrative 380-186130-1

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 12/4/2025 10:23 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 3.3°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: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-186130-1

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)	3.0		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)	3.8		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-186130-2

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: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-186130-1

Date Collected: 12/02/25 09:55

Matrix: Drinking Water

Date Received: 12/04/25 10:23

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		12/07/25 16:27	12/08/25 11:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorooctanesulfonic acid (PFOS)	3.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C6 PFDA	102		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C5 PFHxA	101		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C4 PFHpA	105		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C8 PFOA	101		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C9 PFNA	103		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C7 PFUnA	100		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C2 PFDoA	104		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C4 PFBA	104		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C5 PFPeA	105		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C3 PFBS	112		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C3 PFHxS	110		50 - 200	12/07/25 16:27	12/08/25 11:05	1

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Client Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-186130-1

Date Collected: 12/02/25 09:55

Matrix: Drinking Water

Date Received: 12/04/25 10:23

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	113		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C2-4:2-FTS	131		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C2-6:2-FTS	130		50 - 200	12/07/25 16:27	12/08/25 11:05	1
13C2-8:2-FTS	117		50 - 200	12/07/25 16:27	12/08/25 11:05	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		12/08/25 03:26	12/08/25 18:05	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorohexanesulfonic acid (PFHxS)	3.8		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130			12/08/25 03:26	12/08/25 18:05	1
13C2 PFHxA	106		70 - 130			12/08/25 03:26	12/08/25 18:05	1
13C2 PFDA	109		70 - 130			12/08/25 03:26	12/08/25 18:05	1
13C3-GenX	102		70 - 130			12/08/25 03:26	12/08/25 18:05	1

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-186130-2

Date Collected: 12/02/25 09:55

Matrix: Water

Date Received: 12/04/25 10:23

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		12/07/25 16:27	12/08/25 11:25	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1

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Client Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-186130-2

Date Collected: 12/02/25 09:55

Matrix: Water

Date Received: 12/04/25 10:23

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		12/07/25 16:27	12/08/25 11:25	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		12/07/25 16:27	12/08/25 11:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	106		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C6 PFDA	107		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C5 PFHxA	109		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C4 PFHpA	112		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C8 PFOA	111		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C9 PFNA	110		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C7 PFUnA	114		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C2 PFDoA	109		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C4 PFBA	109		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C5 PFPeA	104		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C3 PFBS	117		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C3 PFHxS	115		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C8 PFOS	114		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C2-4:2-FTS	134		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C2-6:2-FTS	130		50 - 200	12/07/25 16:27	12/08/25 11:25	1
13C2-8:2-FTS	131		50 - 200	12/07/25 16:27	12/08/25 11:25	1

Client Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-186130-2

Date Collected: 12/02/25 09:55

Matrix: Water

Date Received: 12/04/25 10:23

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		12/08/25 03:26	12/08/25 18:34	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		12/08/25 03:26	12/08/25 18:34	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			12/08/25 03:26	12/08/25 18:34	1
13C2 PFHxA	112		70 - 130			12/08/25 03:26	12/08/25 18:34	1
13C2 PFDA	111		70 - 130			12/08/25 03:26	12/08/25 18:34	1
13C3-GenX	109		70 - 130			12/08/25 03:26	12/08/25 18:34	1

Action Limit Summary

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-186130-1

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)	3.0		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)	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)	3.8		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: 380-186130-2

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: 380-186130-1
 SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Drinking 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)
380-186130-1	Halawa Shaft Viewing Pool	106	106	109	102
380-186130-1 MS	Halawa Shaft Viewing Pool	107	108	110	101
380-186130-1 MSD	Halawa Shaft Viewing Pool	104	104	105	104

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
 PFHxA = 13C2 PFHxA
 PFDA = 13C2 PFDA
 GenX = 13C3-GenX

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)
380-186130-2	Halawa Shaft Viewing Pool Blank	103	112	111	109
LCS 380-190874/21-A	Lab Control Sample	102	102	109	97
MBL 380-190874/19-A	Method Blank	107	105	107	99
MRL 380-190874/20-A	Lab Control Sample	95	96	103	86

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: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-186130-1	Halawa Shaft Viewing Pool	96	102	101	105	101	103	100	104

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-186130-1	Halawa Shaft Viewing Pool	104	105	112	110	113	131	130	117

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 PFDaA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-185935-B-1-A MS	Matrix Spike	103	108	103	106	105	110	112	107
380-185935-C-1-A MSD	Matrix Spike Duplicate	107	109	106	113	110	110	110	105
380-186130-2	Halawa Shaft Viewing Pool	106	107	109	112	111	110	114	109
	Blank								
LCS 380-190702/24-A	Lab Control Sample	106	108	109	109	112	110	110	105
MBL 380-190702/22-A	Method Blank	100	107	107	111	107	109	105	105
MRL 380-190702/23-A	Lab Control Sample	105	109	114	112	110	109	108	110

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-185935-B-1-A MS	Matrix Spike	104	107	118	115	112	128	127	123
380-185935-C-1-A MSD	Matrix Spike Duplicate	109	113	114	110	112	125	131	125
380-186130-2	Halawa Shaft Viewing Pool	109	104	117	115	114	134	130	131
	Blank								
LCS 380-190702/24-A	Lab Control Sample	108	104	115	111	112	133	127	122
MBL 380-190702/22-A	Method Blank	106	104	113	112	112	135	131	113
MRL 380-190702/23-A	Lab Control Sample	110	106	118	114	112	131	130	129

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA

Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-190702/22-A
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190702

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		12/07/25 16:27	12/08/25 08:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		12/07/25 16:27	12/08/25 08:27	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C6 PFDA	107		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C5 PFHxA	107		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C4 PFHpA	111		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C8 PFOA	107		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C9 PFNA	109		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C7 PFUnA	105		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C2 PFDoA	105		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C4 PFBA	106		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C5 PFPeA	104		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C3 PFBS	113		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C3 PFHxS	112		50 - 200	12/07/25 16:27	12/08/25 08:27	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-190702/22-A
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190702

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	112		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C2-4:2-FTS	135		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C2-6:2-FTS	131		50 - 200	12/07/25 16:27	12/08/25 08:27	1
13C2-8:2-FTS	113		50 - 200	12/07/25 16:27	12/08/25 08:27	1

Lab Sample ID: LCS 380-190702/24-A
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	57.1		ng/L		95	70 - 130
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	60.2	61.0		ng/L		101	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	60.0		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	60.0		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	59.7		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	60.7		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	60.1		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	59.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	58.8		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	60.2	61.9		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	56.1		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	58.9		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	59.3		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	60.4		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	64.7		ng/L		107	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	57.6		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	63.1		ng/L		105	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	59.4		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.2	57.4		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	60.6		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	61.2		ng/L		102	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	59.6		ng/L		99	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	57.6		ng/L		96	70 - 130

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-190702/24-A
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190702

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.2	59.9		ng/L		99	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	106		50 - 200				
13C6 PFDA	108		50 - 200				
13C5 PFHxA	109		50 - 200				
13C4 PFHpA	109		50 - 200				
13C8 PFOA	112		50 - 200				
13C9 PFNA	110		50 - 200				
13C7 PFUnA	110		50 - 200				
13C2 PFDoA	105		50 - 200				
13C4 PFBA	108		50 - 200				
13C5 PFPeA	104		50 - 200				
13C3 PFBS	115		50 - 200				
13C3 PFHxS	111		50 - 200				
13C8 PFOS	112		50 - 200				
13C2-4:2-FTS	133		50 - 200				
13C2-6:2-FTS	127		50 - 200				
13C2-8:2-FTS	122		50 - 200				

Lab Sample ID: MRL 380-190702/23-A
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190702

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.94	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.78	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.03	J	ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.02	J	ng/L		100	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-190702/23-A
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190702

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.08	J	ng/L		103	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.28	J	ng/L		113	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.21	J	ng/L		110	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.88	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.94	J	ng/L		96	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.87	J	ng/L		93	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.95	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	109		50 - 200
13C5 PFHxA	114		50 - 200
13C4 PFHpA	112		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	118		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	131		50 - 200
13C2-6:2-FTS	130		50 - 200
13C2-8:2-FTS	129		50 - 200

Lab Sample ID: 380-185935-B-1-A MS
Matrix: Water
Analysis Batch: 190882

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 190702

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		60.4	59.4		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.4	57.9		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.4	61.5		ng/L		102	70 - 130

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-185935-B-1-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 190882

Prep Batch: 190702

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		60.4	63.1		ng/L		104	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	2.6		60.4	65.4		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.4	61.7		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.4	60.5		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.4	63.3		ng/L		104	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.4	62.1		ng/L		101	70 - 130
Perfluorohexanoic acid (PFHxA)	2.0		60.4	64.4		ng/L		103	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.4	65.8		ng/L		108	70 - 130
Perfluorooctanesulfonic acid (PFOS)	6.2		60.4	78.3		ng/L		119	70 - 130
Perfluorooctanoic acid (PFOA)	2.9		60.4	69.8		ng/L		111	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.4	60.5		ng/L		100	70 - 130
Perfluorobutanoic acid (PFBA)	5.0		60.4	72.9		ng/L		112	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.4	68.1		ng/L		113	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.4	61.4		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.4	63.6		ng/L		105	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.4	64.8		ng/L		107	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.4	56.2		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.4	63.0		ng/L		104	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.4	59.4		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	3.2		60.4	66.4		ng/L		105	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.4	58.3		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.4	60.7		ng/L		100	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	108		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	106		50 - 200
13C8 PFOA	105		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	118		50 - 200
13C3 PFHxS	115		50 - 200
13C8 PFOS	112		50 - 200

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-185935-B-1-A MS

Matrix: Water

Analysis Batch: 190882

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 190702

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	128		50 - 200
13C2-6:2-FTS	127		50 - 200
13C2-8:2-FTS	123		50 - 200

Lab Sample ID: 380-185935-C-1-A MSD

Matrix: Water

Analysis Batch: 190882

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 190702

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	58.7		ng/L		97	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	57.6		ng/L		96	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	59.0		ng/L		98	70 - 130	4	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	60.5		ng/L		100	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	2.6		60.2	65.8		ng/L		105	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	61.6		ng/L		100	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	61.0		ng/L		101	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	61.2		ng/L		101	70 - 130	3	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	63.3		ng/L		103	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	2.0		60.2	62.5		ng/L		100	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	63.8		ng/L		105	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	6.2		60.2	76.3		ng/L		116	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	2.9		60.2	68.5		ng/L		109	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	60.1		ng/L		100	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	5.0		60.2	71.9		ng/L		111	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	64.3		ng/L		107	70 - 130	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	65.2		ng/L		108	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	63.9		ng/L		106	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	61.8		ng/L		103	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	56.8		ng/L		94	70 - 130	1	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	63.0		ng/L		105	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	58.7		ng/L		97	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	3.2		60.2	63.2		ng/L		100	70 - 130	5	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	58.2		ng/L		97	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	61.9		ng/L		102	70 - 130	2	30

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QC Sample Results

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

Job ID: 380-186130-1
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	107		50 - 200
13C6 PFDA	109		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	110		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	114		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	125		50 - 200
13C2-6:2-FTS	131		50 - 200
13C2-8:2-FTS	125		50 - 200

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

Lab Sample ID: MBL 380-190874/19-A
Matrix: Water
Analysis Batch: 191006

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190874

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		12/08/25 03:26	12/08/25 17:36	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		12/08/25 03:26	12/08/25 17:36	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	107		70 - 130			12/08/25 03:26	12/08/25 17:36	1
13C2 PFHxA	105		70 - 130			12/08/25 03:26	12/08/25 17:36	1
13C2 PFDA	107		70 - 130			12/08/25 03:26	12/08/25 17:36	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-190874/19-A
Matrix: Water
Analysis Batch: 191006

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190874

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	99	Qualifier	70 - 130	12/08/25 03:26	12/08/25 17:36	1

Lab Sample ID: LCS 380-190874/21-A
Matrix: Water
Analysis Batch: 191006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190874

<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	50.2	46.0		ng/L		92	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.2	51.4		ng/L		102	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	51.0		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	49.6		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.2	48.3		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	48.9		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	49.7		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	51.5		ng/L		103	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	51.4		ng/L		102	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.2	52.5		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.2	51.2		ng/L		102	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	48.1		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	50.2	50.2		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.2	38.1		ng/L		76	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	50.6		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.2	51.3		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.2	48.9		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.2	48.2		ng/L		96	70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	102		70 - 130
13C2 PFDA	109		70 - 130
13C3-GenX	97		70 - 130

QC Sample Results

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-190874/20-A
Matrix: Water
Analysis Batch: 191006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190874

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.81	J	ng/L		90	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.34	J	ng/L		117	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.25	J	ng/L		112	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.01	J	ng/L		100	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.20	J	ng/L		110	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.28	J	ng/L		114	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.21	J	ng/L		110	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.87	J	ng/L		93	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.14	J	ng/L		107	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.22	J	ng/L		111	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.09	J	ng/L		104	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.96	J	ng/L		98	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	96		70 - 130
13C2 PFDA	103		70 - 130
13C3-GenX	86		70 - 130

Lab Sample ID: 380-186130-1 MS
Matrix: Drinking Water
Analysis Batch: 191006

Client Sample ID: Halawa Shaft Viewing Pool
Prep Type: Total/NA
Prep Batch: 190874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.2	25.1		ng/L		100	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.5		25.2	29.5		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	26.4		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	25.5		ng/L		102	70 - 130

Eurofins Eaton Analytical Pomona

QC Association Summary

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

Job ID: 380-186130-1
 SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 190702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-186130-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	533	
380-186130-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	533	
MBL 380-190702/22-A	Method Blank	Total/NA	Water	533	
LCS 380-190702/24-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-190702/23-A	Lab Control Sample	Total/NA	Water	533	
380-185935-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-185935-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Prep Batch: 190874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-186130-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1 DW	
380-186130-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	537.1 DW	
MBL 380-190874/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-190874/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-190874/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-186130-1 MS	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1 DW	
380-186130-1 MSD	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 190882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-186130-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	533	190702
380-186130-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	533	190702
MBL 380-190702/22-A	Method Blank	Total/NA	Water	533	190702
LCS 380-190702/24-A	Lab Control Sample	Total/NA	Water	533	190702
MRL 380-190702/23-A	Lab Control Sample	Total/NA	Water	533	190702
380-185935-B-1-A MS	Matrix Spike	Total/NA	Water	533	190702
380-185935-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	190702

Analysis Batch: 191006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-186130-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1	190874
380-186130-2	Halawa Shaft Viewing Pool Blank	Total/NA	Water	537.1	190874
MBL 380-190874/19-A	Method Blank	Total/NA	Water	537.1	190874
LCS 380-190874/21-A	Lab Control Sample	Total/NA	Water	537.1	190874
MRL 380-190874/20-A	Lab Control Sample	Total/NA	Water	537.1	190874
380-186130-1 MS	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1	190874
380-186130-1 MSD	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1	190874

Lab Chronicle

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

Job ID: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-186130-1

Date Collected: 12/02/25 09:55

Matrix: Drinking Water

Date Received: 12/04/25 10:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			190702	E9PK	EA POM	12/07/25 16:27
Total/NA	Analysis	533		1	190882	SZ9R	EA POM	12/08/25 11:05
Total/NA	Prep	537.1 DW			190874	G9MN	EA POM	12/08/25 03:26
Total/NA	Analysis	537.1		1	191006	SZ9R	EA POM	12/08/25 18:05

Client Sample ID: Halawa Shaft Viewing Pool Blank

Lab Sample ID: 380-186130-2

Date Collected: 12/02/25 09:55

Matrix: Water

Date Received: 12/04/25 10:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			190702	E9PK	EA POM	12/07/25 16:27
Total/NA	Analysis	533		1	190882	SZ9R	EA POM	12/08/25 11:25
Total/NA	Prep	537.1 DW			190874	G9MN	EA POM	12/08/25 03:26
Total/NA	Analysis	537.1		1	191006	SZ9R	EA POM	12/08/25 18:34

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: 380-186130-1
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: 380-186130-1
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: 380-186130-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-186130-1	Halawa Shaft Viewing Pool	Drinking Water	12/02/25 09:55	12/04/25 10:23	Hawaii
380-186130-2	Halawa Shaft Viewing Pool Blank	Water	12/02/25 09:55	12/04/25 10:23	Hawaii

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

Chain of Custody Record

Client Information Client Contact: kirk Iwamoto Phone: +1 808 748 5840 City & County of Honolulu		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@eurofins.com		Carrier Tracking No(s): 380-27941-2757.2 State of Origin: Page 2 of 2 Job #:	
Due Date Requested: TAT Requested (days): RUSH Compliance Project: Δ No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Analysis Requested			
Address: 630 South Beretania Street; Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5840 (tel) Email: kwanmoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Sample Identification Halawa Shaft Viewing Pool Halawa Shaft Viewing Pool Blank		Sample Date 2-Dec-2025 2-Dec-2025	Sample Type (C=Comp, G=grab) G G	Matrix (Prep, Swab, On-site, etc.) Water Water	Field Filtered Sample (Yes or No) X X
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Empty Kit Relinquished by:		Special Instructions/QC Requirements:			
Relinquished by:		Method of Shipment: Fedex 8867 0190 8350			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 751A 3.3-6.0 = 3.3 Gel frozen			



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-186130-1

SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 186130

List Number: 1

Creator: Sanchez, Joseph G

List Source: Eurofins Eaton Analytical Pomona

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

