

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
Weekly PFAS

JOB NUMBER

380-153986-1

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: 380-153986-1
SDG: Weekly PFAS

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: 380-153986-1

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Job Narrative 380-153986-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 6/5/2025 9:34 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 2.8°C.

PFAS

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

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Detection Summary

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

Job ID: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-1

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)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.9		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.2		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-2

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: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-1

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

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 (11CI-PF3OUdS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:49	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C6 PFDA	99		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C5 PFHxA	97		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C4 PFHpA	102		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C8 PFOA	103		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C9 PFNA	102		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C7 PFUnA	99		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C2 PFDoA	103		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C4 PFBA	104		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C5 PFPeA	111		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C3 PFBS	111		50 - 200			06/09/25 19:39	06/10/25 17:49	1
13C3 PFHxS	113		50 - 200			06/09/25 19:39	06/10/25 17:49	1

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Client Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-1

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	106		50 - 200	06/09/25 19:39	06/10/25 17:49	1
13C2-4:2-FTS	149		50 - 200	06/09/25 19:39	06/10/25 17:49	1
13C2-6:2-FTS	157		50 - 200	06/09/25 19:39	06/10/25 17:49	1
13C2-8:2-FTS	130		50 - 200	06/09/25 19:39	06/10/25 17:49	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		06/06/25 16:21	06/07/25 13:36	1
Perfluorooctanesulfonic acid (PFOS)	3.9		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorohexanesulfonic acid (PFHxS)	4.2		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:36	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	110		70 - 130			06/06/25 16:21	06/07/25 13:36	1
13C2 PFHxA	112		70 - 130			06/06/25 16:21	06/07/25 13:36	1
13C2 PFDA	120		70 - 130			06/06/25 16:21	06/07/25 13:36	1
13C3-GenX	118		70 - 130			06/06/25 16:21	06/07/25 13:36	1

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-2

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

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 (11CI-PF3OUdS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-2

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

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		06/09/25 19:39	06/10/25 17:59	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/09/25 19:39	06/10/25 17:59	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C6 PFDA	104		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C5 PFHxA	102		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C4 PFHpA	108		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C8 PFOA	109		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C9 PFNA	109		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C7 PFUnA	100		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C2 PFDoA	106		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C4 PFBA	108		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C5 PFPeA	111		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C3 PFBS	106		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C3 PFHxS	110		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C8 PFOS	108		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C2-4:2-FTS	131		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C2-6:2-FTS	123		50 - 200			06/09/25 19:39	06/10/25 17:59	1
13C2-8:2-FTS	116		50 - 200			06/09/25 19:39	06/10/25 17:59	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-2

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

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		06/06/25 16:21	06/07/25 13:47	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/06/25 16:21	06/07/25 13:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			06/06/25 16:21	06/07/25 13:47	1
13C2 PFHxA	111		70 - 130			06/06/25 16:21	06/07/25 13:47	1
13C2 PFDA	119		70 - 130			06/06/25 16:21	06/07/25 13:47	1
13C3-GenX	116		70 - 130			06/06/25 16:21	06/07/25 13:47	1

Action Limit Summary

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

Job ID: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-1

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)	3.5		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)	3.9		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)	4.2		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: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-2

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: 380-153986-1
SDG: Weekly PFAS

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-153928-B-1-A MS	Matrix Spike	107	114	118	119
380-153928-C-1-A MSD	Matrix Spike Duplicate	101	111	117	119
380-153986-1	HALAWA SHAFT VIEWING POOL	110	112	120	118
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	108	111	119	116
LCS 380-156560/22-A	Lab Control Sample	103	112	118	119
MBL 380-156560/20-A	Method Blank	112	120	119	127
MRL 380-156560/21-A	Lab Control Sample	106	115	117	126

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: 380-153986-1
SDG: Weekly PFAS

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFD _o A (50-200)
380-153986-1	HALAWA SHAFT VIEWING POOL	91	99	97	102	103	102	99	103
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	93	104	102	108	109	109	100	106
380-154227-B-1-A MS	Matrix Spike	106	104	106	108	108	109	102	105
380-154227-B-1-B MSD	Matrix Spike Duplicate	103	104	103	105	107	106	104	109
LCS 380-156953/22-A	Lab Control Sample	103	107	102	107	109	109	108	112
MBL 380-156953/20-A	Method Blank	102	103	107	110	107	110	101	104
MRL 380-156953/21-A	Lab Control Sample	102	108	110	112	113	112	107	110
		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-200)	PFP _e A (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-153986-1	HALAWA SHAFT VIEWING POOL	104	111	111	113	106	149	157	130
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	108	111	106	110	108	131	123	116
380-154227-B-1-A MS	Matrix Spike	115	117	114	115	107	127	121	122
380-154227-B-1-B MSD	Matrix Spike Duplicate	109	113	108	112	107	122	119	117
LCS 380-156953/22-A	Lab Control Sample	113	116	116	110	108	121	120	121
MBL 380-156953/20-A	Method Blank	110	112	112	116	113	132	124	118
MRL 380-156953/21-A	Lab Control Sample	116	118	108	113	109	125	120	116
Surrogate Legend									
HFPODA = 13C3 HFPO-DA									
C6PFDA = 13C6 PFDA									
13C5PHA = 13C5 PFHxA									
C4PFHA = 13C4 PFHpA									
C8PFOA = 13C8 PFOA									
C9PFNA = 13C9 PFNA									
13C7PUA = 13C7 PFUnA									
PFD _o A = 13C2 PFD _o A									
PFBA = 13C4 PFBA									
PFP _e A = 13C5 PFP _e A									
C3PFBS = 13C3 PFBS									
C3PFHS = 13C3 PFHxS									
C8PFOS = 13C8 PFOS									
42FTS = 13C2-4:2-FTS									
62FTS = 13C2-6:2-FTS									
82FTS = 13C2-8:2-FTS									

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-156953/20-A

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 156953

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<0.30		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<0.30		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		06/09/25 19:39	06/10/25 15:45	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	102		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C6 PFDA	103		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C5 PFHxA	107		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C4 PFHpA	110		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C8 PFOA	107		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C9 PFNA	110		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C7 PFUnA	101		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C2 PFDoA	104		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C4 PFBA	110		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C5 PFPeA	112		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C3 PFBS	112		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C3 PFHxS	116		50 - 200	06/09/25 19:39	06/10/25 15:45	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-156953/20-A

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 156953

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	113		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C2-4:2-FTS	132		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C2-6:2-FTS	124		50 - 200	06/09/25 19:39	06/10/25 15:45	1
13C2-8:2-FTS	118		50 - 200	06/09/25 19:39	06/10/25 15:45	1

Lab Sample ID: LCS 380-156953/22-A

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	117		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	117		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	115		ng/L		96	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	115		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	115		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	120	119		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	120	117		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	117		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	120	118		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	120	114		ng/L		95	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	117		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	120	117		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	114		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	116		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	114		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	107		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	109		ng/L		90	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	119		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	113		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	120	108		ng/L		90	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	122		ng/L		101	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: LCS 380-156953/22-A

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	118		ng/L		98	70 - 130
	LCS	LCS					
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	103		50 - 200				
13C6 PFDA	107		50 - 200				
13C5 PFHxA	102		50 - 200				
13C4 PFHpA	107		50 - 200				
13C8 PFOA	109		50 - 200				
13C9 PFNA	109		50 - 200				
13C7 PFUnA	108		50 - 200				
13C2 PFDoA	112		50 - 200				
13C4 PFBA	113		50 - 200				
13C5 PFPeA	116		50 - 200				
13C3 PFBS	116		50 - 200				
13C3 PFHxS	110		50 - 200				
13C8 PFOS	108		50 - 200				
13C2-4:2-FTS	121		50 - 200				
13C2-6:2-FTS	120		50 - 200				
13C2-8:2-FTS	121		50 - 200				

Lab Sample ID: MRL 380-156953/21-A

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.07	J	ng/L		103	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.03	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.90	J	ng/L		95	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	2.06	J	ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.06	J	ng/L		103	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.25	J	ng/L		112	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.88	J	ng/L		94	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.98	J	ng/L		98	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-156953/21-A

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.28	J	ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.12	J	ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.24	J	ng/L		111	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.82	J	ng/L		90	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.90	J	ng/L		95	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.80	J	ng/L		90	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.03	J	ng/L		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.94	J	ng/L		97	50 - 150

Isotope Dilution	%Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	108		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	112		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	110		50 - 200
13C4 PFBA	116		50 - 200
13C5 PFPeA	118		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	125		50 - 200
13C2-6:2-FTS	120		50 - 200
13C2-8:2-FTS	116		50 - 200

Lab Sample ID: 380-154227-B-1-A MS

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	61.8		ng/L		103	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	59.5		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	56.6		ng/L		94	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-154227-B-1-A MS

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.2	57.2		ng/L		95	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	61.4		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	59.7		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.0		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	58.0		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	59.0		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	58.8		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	57.7		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	59.6		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	56.8		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	60.6		ng/L		101	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	58.6		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	58.7		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	58.7		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	60.7		ng/L		101	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		60.2	52.9		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		60.2	58.5		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	57.6		ng/L		96	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	55.5		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	53.6		ng/L		89	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	62.3		ng/L		103	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	57.7		ng/L		96	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	102		50 - 200
13C2 PFDoA	105		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	117		50 - 200
13C3 PFBS	114		50 - 200
13C3 PFHxS	115		50 - 200
13C8 PFOS	107		50 - 200

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QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-154227-B-1-A MS

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 156953

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	127		50 - 200
13C2-6:2-FTS	121		50 - 200
13C2-8:2-FTS	122		50 - 200

Lab Sample ID: 380-154227-B-1-B MSD

Matrix: Water

Analysis Batch: 157045

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 156953

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	59.6		ng/L		99	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		60.1	59.9		ng/L		100	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	60.7		ng/L		101	70 - 130	7	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.1	57.2		ng/L		95	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	60.6		ng/L		101	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		60.1	61.4		ng/L		102	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	59.3		ng/L		99	70 - 130	1	30
Perfluorooheptanoic acid (PFHpA)	<2.0		60.1	60.7		ng/L		101	70 - 130	5	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	58.2		ng/L		97	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	57.2		ng/L		95	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		60.1	58.5		ng/L		97	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.1	60.3		ng/L		100	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		60.1	57.1		ng/L		95	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	60.4		ng/L		100	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		60.1	61.3		ng/L		102	70 - 130	5	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	61.1		ng/L		102	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	62.3		ng/L		104	70 - 130	6	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	60.7		ng/L		101	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	55.3		ng/L		92	70 - 130	5	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.1	60.1		ng/L		100	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	61.7		ng/L		103	70 - 130	7	30
Perfluoro-4-methoxybutanoic acid (PFMPA)	<2.0		60.1	59.4		ng/L		99	70 - 130	7	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	57.3		ng/L		95	70 - 130	7	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	63.2		ng/L		105	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	59.2		ng/L		99	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	103		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	105		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	122		50 - 200
13C2-6:2-FTS	119		50 - 200
13C2-8:2-FTS	117		50 - 200

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

Lab Sample ID: MBL 380-156560/20-A
Matrix: Water
Analysis Batch: 156654

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 156560

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		06/06/25 16:21	06/07/25 10:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/06/25 16:21	06/07/25 10:58	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	112		70 - 130			06/06/25 16:21	06/07/25 10:58	1
13C2 PFHxA	120		70 - 130			06/06/25 16:21	06/07/25 10:58	1
13C2 PFDA	119		70 - 130			06/06/25 16:21	06/07/25 10:58	1

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QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-156560/20-A

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 156560

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	127		70 - 130	06/06/25 16:21	06/07/25 10:58	1

Lab Sample ID: LCS 380-156560/22-A

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 156560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	50.1	55.8		ng/L		111	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.1	52.8		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.1	53.7		ng/L		107	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.1	50.4		ng/L		101	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.1	49.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	50.1	55.5		ng/L		111	70 - 130
Perfluorododecanoic acid (PFDoA)	50.1	54.0		ng/L		108	70 - 130
Perfluorooctanoic acid (PFOA)	50.1	53.1		ng/L		106	70 - 130
Perfluorodecanoic acid (PFDA)	50.1	56.0		ng/L		112	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.1	54.4		ng/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.1	48.7		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.1	53.2		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	50.1	51.4		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.1	54.9		ng/L		110	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.1	62.4		ng/L		125	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.1	53.8		ng/L		107	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.1	62.4		ng/L		125	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.1	53.1		ng/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	103		70 - 130
13C2 PFHxA	112		70 - 130
13C2 PFDA	118		70 - 130
13C3-GenX	119		70 - 130

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-156560/21-A

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 156560

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	2.00	2.47	J	ng/L		123	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	2.00	2.15	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.31	J	ng/L		115	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.07	J	ng/L		103	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.15	J	ng/L		108	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.29	J	ng/L		114	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.46	J	ng/L		123	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.09	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.59	J	ng/L		129	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.89	J	ng/L		144	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.31	J	ng/L		115	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.10	J	ng/L		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.31	J	ng/L		115	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	106		70 - 130
13C2 PFHxA	115		70 - 130
13C2 PFDA	117		70 - 130
13C3-GenX	126		70 - 130

Lab Sample ID: 380-153928-B-1-A MS

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 156560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		25.1	28.2		ng/L		112	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.5		ng/L		110	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.5		ng/L		110	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	25.9		ng/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-153928-B-1-A MS

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 156560

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits		
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		25.1	26.2		ng/L		105	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	28.7		ng/L		111	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.7		ng/L		110	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		25.1	26.8		ng/L		107	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		25.1	26.7		ng/L		107	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	28.4		ng/L		111	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.9		ng/L		107	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	26.8		ng/L		107	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.3		ng/L		101	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	30.7		ng/L		122	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	32.7		ng/L		130	70 - 130		
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	27.1		ng/L		108	70 - 130		
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	29.7		ng/L		118	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	28.0		ng/L		112	70 - 130		
		MS			MS						
Surrogate	%Recovery	Qualifier	Limits								
d5-NEtFOSAA	107		70 - 130								
13C2 PFHxA	114		70 - 130								
13C2 PFDA	118		70 - 130								
13C3-GenX	119		70 - 130								

Lab Sample ID: 380-153928-C-1-A MSD

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 156560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	29.7		ng/L		118	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	26.6		ng/L		106	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.6		ng/L		110	70 - 130	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.8		ng/L		99	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<2.0		25.1	25.4		ng/L		101	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	30.3		ng/L		118	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	28.5		ng/L		114	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	26.2		ng/L		105	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.5		ng/L		110	70 - 130	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-153986-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-153928-C-1-A MSD

Matrix: Water

Analysis Batch: 156654

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 156560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	28.4		ng/L		111	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	26.4		ng/L		105	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	27.6		ng/L		110	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	25.4		ng/L		101	70 - 130	0	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	30.9		ng/L		123	70 - 130	1	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	32.3		ng/L		129	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	27.2		ng/L		108	70 - 130	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	30.6		ng/L		122	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	28.1		ng/L		112	70 - 130	0	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	101		70 - 130								
13C2 PFHxA	111		70 - 130								
13C2 PFDA	117		70 - 130								
13C3-GenX	119		70 - 130								

QC Association Summary

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

Job ID: 380-153986-1
SDG: Weekly PFAS

LCMS

Prep Batch: 156560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-153986-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-156560/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-156560/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-156560/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-153928-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-153928-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 156654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-153986-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1	156560
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1	156560
MBL 380-156560/20-A	Method Blank	Total/NA	Water	537.1	156560
LCS 380-156560/22-A	Lab Control Sample	Total/NA	Water	537.1	156560
MRL 380-156560/21-A	Lab Control Sample	Total/NA	Water	537.1	156560
380-153928-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	156560
380-153928-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	156560

Prep Batch: 156953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-153986-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-156953/20-A	Method Blank	Total/NA	Water	533	
LCS 380-156953/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-156953/21-A	Lab Control Sample	Total/NA	Water	533	
380-154227-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-154227-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 157045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-153986-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	156953
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	156953
MBL 380-156953/20-A	Method Blank	Total/NA	Water	533	156953
LCS 380-156953/22-A	Lab Control Sample	Total/NA	Water	533	156953
MRL 380-156953/21-A	Lab Control Sample	Total/NA	Water	533	156953
380-154227-B-1-A MS	Matrix Spike	Total/NA	Water	533	156953
380-154227-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	533	156953

Lab Chronicle

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

Job ID: 380-153986-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-1

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			156953	N8NE	EA POM	06/09/25 19:39
Total/NA	Analysis	533		1	157045	SZ9R	EA POM	06/10/25 17:49
Total/NA	Prep	537.1 DW			156560	N8NE	EA POM	06/06/25 16:21
Total/NA	Analysis	537.1		1	156654	Y5FM	EA POM	06/07/25 13:36

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-153986-2

Date Collected: 06/03/25 10:00

Matrix: Water

Date Received: 06/05/25 09:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			156953	N8NE	EA POM	06/09/25 19:39
Total/NA	Analysis	533		1	157045	SZ9R	EA POM	06/10/25 17:59
Total/NA	Prep	537.1 DW			156560	N8NE	EA POM	06/06/25 16:21
Total/NA	Analysis	537.1		1	156654	Y5FM	EA POM	06/07/25 13:47

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: 380-153986-1
SDG: Weekly PFAS

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
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- 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: 380-153986-1
SDG: Weekly PFAS

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: 380-153986-1
SDG: Weekly PFAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-153986-1	HALAWA SHAFT VIEWING POOL	Water	06/03/25 10:00	06/05/25 09:34
380-153986-2	FB: HALAWA SHAFT VIEWING POOL	Water	06/03/25 10:00	06/05/25 09:34

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

 eurofins

Client Information			Lab PM		Carrier Tracking No(s)		COC No:																											
Client Contact: Kirk Iwamoto			Arada, Rachelle		380-28005-2757 1		Page:																											
Company: City & County of Honolulu			E-Mail: Rachelle.Arada@et.eurofinus.com		State of Origin: HI		Job #:																											
Address: 630 South Beretania Street Chemistry Lab Honolulu State Zip: HI 96843 Phone: 808-748-5840(Tel) E-mail: KIWAMOTO@hbws.org Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill Site: Hawaii			Due Date Requested: TAT Requested (days): Compliance Project: ☐ Yes ☐ No PO #: C20525101 exp 05312023 WO #: Project #: 38001111 SSOW#:		Analysis Requested				Preservation Codes: R - NaThioSO4 RA - NaThioHCl Q - Na2SO3 QA - Na2SO3/HCl Y - Trizma I - NH4 Acetate 380-153986 COC Other:																									
Sample Identification			Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Water, Sewer, Spill, On-site/Off)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		826.1, 826.1, SIM		8015B_GRO_LL - (MOD) GRO		8015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18		525.2, PREC - (MOD) 525plus Plus TICs		537.1, DW, PREC - 537.1 Full List		533 - All Analytes		Total Number of Containers		Special Instructions/Note:					
Halawa Shaft Viewing Pool			6/3/25		1500		G		Water																									
FB, Halawa Shaft Viewing Pool			6/3/25		1000		G		Water																									
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Empty Kit Relinquished by			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Relinquished			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Relinquished			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Relinquished by			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Custody Seal No.			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Custody Seal Intact			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Custody Seal No.			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40	
Custody Seal Intact			Date: 6/4/25 1300		Company: HBWS		Received by: [Signature]		Method of Shipment: FEDEX 8817 7808 3650		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25 09:34		Company: E-40		Date/Time: 06/05/25							

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-153986-1

SDG Number: Weekly PFAS

Login Number: 153986

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Edrosa, Rey

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	