

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
Weekly PFAS

JOB NUMBER

380-146407-1

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



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Definitions/Glossary

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

Job ID: 380-146407-1
SDG: Weekly PFAS

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
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: 380-146407-1

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Job Narrative 380-146407-1

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 4/17/2025 10:17 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6°C and 2.8°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: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-2

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: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-1

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

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		04/18/25 17:01	04/21/25 15:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C6 PFDA	71		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C5 PFHxA	103		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C4 PFHpA	95		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C8 PFOA	79		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C9 PFNA	71		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C7 PFUnA	76		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C2 PFDoA	75		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C4 PFBA	102		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C5 PFPeA	102		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C3 PFBS	96		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C3 PFHxS	105		50 - 200	04/18/25 17:01	04/21/25 15:01	1

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Client Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-1

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	100		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C2-4:2-FTS	130		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C2-6:2-FTS	119		50 - 200	04/18/25 17:01	04/21/25 15:01	1
13C2-8:2-FTS	106		50 - 200	04/18/25 17:01	04/21/25 15:01	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		04/18/25 13:45	04/19/25 19:44	1
Perfluorooctanesulfonic acid (PFOS)	3.4		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:44	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	95		70 - 130			04/18/25 13:45	04/19/25 19:44	1
13C2 PFHxA	101		70 - 130			04/18/25 13:45	04/19/25 19:44	1
13C2 PFDA	100		70 - 130			04/18/25 13:45	04/19/25 19:44	1
13C3-GenX	87		70 - 130			04/18/25 13:45	04/19/25 19:44	1

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-2

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

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		04/18/25 17:01	04/21/25 15:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1

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Client Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-2

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

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		04/18/25 17:01	04/21/25 15:11	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/18/25 17:01	04/21/25 15:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	82		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C6 PFDA	106		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C5 PFHxA	107		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C4 PFHpA	111		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C8 PFOA	105		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C9 PFNA	106		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C7 PFUnA	104		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C2 PFDoA	97		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C4 PFBA	108		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C5 PFPeA	102		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C3 PFBS	103		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C3 PFHxS	107		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C8 PFOS	105		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C2-4:2-FTS	128		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C2-6:2-FTS	122		50 - 200	04/18/25 17:01	04/21/25 15:11	1
13C2-8:2-FTS	106		50 - 200	04/18/25 17:01	04/21/25 15:11	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-2

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

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		04/18/25 13:45	04/19/25 19:54	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/18/25 13:45	04/19/25 19:54	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	83		70 - 130			04/18/25 13:45	04/19/25 19:54	1
13C2 PFHxA	93		70 - 130			04/18/25 13:45	04/19/25 19:54	1
13C2 PFDA	100		70 - 130			04/18/25 13:45	04/19/25 19:54	1
13C3-GenX	76		70 - 130			04/18/25 13:45	04/19/25 19:54	1

Action Limit Summary

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

Job ID: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		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)	3.4		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	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: 380-146407-1
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)
380-146354-B-1-A MS	Matrix Spike	93	96	96	77
380-146354-C-1-A MSD	Matrix Spike Duplicate	92	101	104	92
380-146407-1	Halawa Shaft Viewing Pool	95	101	100	87
380-146407-2	FB: Halawa Shaft Viewing Pool	83	93	100	76
LCS 380-148199/22-A	Lab Control Sample	87	95	105	85
MBL 380-148199/20-A	Method Blank	93	102	104	92
MRL 380-148199/21-A	Lab Control Sample	87	94	96	76

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: 380-146407-1
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)	PFDaA (50-200)
380-146407-1	Halawa Shaft Viewing Pool	90	71	103	95	79	71	76	75
380-146407-2	FB: Halawa Shaft Viewing Pool	82	106	107	111	105	106	104	97
380-146453-B-5-A MS	Matrix Spike	88	52	94	93	77	69	49 *5-	59
380-146453-C-5-A MSD	Matrix Spike Duplicate	87	44 *5-	91	92	76	63	35 *5-	42 *5-
LCS 380-148273/24-A	Lab Control Sample	93	109	111	112	106	112	109	104
MBL 380-148273/22-A	Method Blank	90	114	114	115	113	118	108	106
MRL 380-148273/23-A	Lab Control Sample	87	112	115	119	108	112	107	103

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-146407-1	Halawa Shaft Viewing Pool	102	102	96	105	100	130	119	106
380-146407-2	FB: Halawa Shaft Viewing Pool	108	102	103	107	105	128	122	106
380-146453-B-5-A MS	Matrix Spike	89	92	106	103	103	121	124	112
380-146453-C-5-A MSD	Matrix Spike Duplicate	91	96	101	104	105	117	122	106
LCS 380-148273/24-A	Lab Control Sample	110	108	106	107	107	121	124	113
MBL 380-148273/22-A	Method Blank	112	114	107	110	108	137	132	115
MRL 380-148273/23-A	Lab Control Sample	110	109	107	109	108	130	127	115

Surrogate Legend

HFPODA = 13C3 HFPO-DA
C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
13C7PUA = 13C7 PFUnA
PFDaA = 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

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-148273/22-A

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 148273

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		04/18/25 17:01	04/21/25 13:33	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C6 PFDA	114		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C5 PFHxA	114		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C4 PFHpA	115		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C8 PFOA	113		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C9 PFNA	118		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C7 PFUnA	108		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C2 PFDoA	106		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C4 PFBA	112		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C5 PFPeA	114		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C3 PFBS	107		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C3 PFHxS	110		50 - 200	04/18/25 17:01	04/21/25 13:33	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-148273/22-A

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 148273

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	108		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C2-4:2-FTS	137		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C2-6:2-FTS	132		50 - 200	04/18/25 17:01	04/21/25 13:33	1
13C2-8:2-FTS	115		50 - 200	04/18/25 17:01	04/21/25 13:33	1

Lab Sample ID: LCS 380-148273/24-A

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148273

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	109		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	120	107		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	110		ng/L		92	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	110		ng/L		92	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	114		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	120	111		ng/L		93	70 - 130
Perfluorododecanoic acid (PFDoA)	120	112		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	112		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	116		ng/L		96	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	116		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	120	118		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	114		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	115		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	119		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	111		ng/L		93	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	120		ng/L		100	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	114		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	114		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	120	115		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	115		ng/L		96	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: LCS 380-148273/24-A

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148273

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	110		ng/L		92	70 - 130
		LCS	LCS				
		%Recovery	Qualifier	Limits			
13C3 HFPO-DA	93			50 - 200			
13C6 PFDA	109			50 - 200			
13C5 PFHxA	111			50 - 200			
13C4 PFHpA	112			50 - 200			
13C8 PFOA	106			50 - 200			
13C9 PFNA	112			50 - 200			
13C7 PFUnA	109			50 - 200			
13C2 PFDoA	104			50 - 200			
13C4 PFBA	110			50 - 200			
13C5 PFPeA	108			50 - 200			
13C3 PFBS	106			50 - 200			
13C3 PFHxS	107			50 - 200			
13C8 PFOS	107			50 - 200			
13C2-4:2-FTS	121			50 - 200			
13C2-6:2-FTS	124			50 - 200			
13C2-8:2-FTS	113			50 - 200			

Lab Sample ID: MRL 380-148273/23-A

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148273

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.05	J	ng/L		102	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.00	1.89	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.87	J	ng/L		93	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.91	J	ng/L		95	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.05	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.03	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.16	J	ng/L		108	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-148273/23-A

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148273

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.12	J	ng/L		106	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.18	J	ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.31	J	ng/L		115	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	1.99	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	1.99	J	ng/L		99	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.07	J	ng/L		103	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	87		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	115		50 - 200
13C4 PFHpA	119		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	130		50 - 200
13C2-6:2-FTS	127		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: 380-146453-B-5-A MS

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 148273

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		121	107		ng/L		88	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	107		ng/L		89	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	102		ng/L		84	70 - 130

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QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-146453-B-5-A MS

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 148273

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		121	114		ng/L		94	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	114		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	111		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	107		ng/L		88	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	113		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		121	116		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	111		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	118		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	115		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	114	*5-	ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	2.9		121	117		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	113		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	114		ng/L		94	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		121	103		ng/L		85	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	119		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	111		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	108		ng/L		89	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		121	113		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	116		ng/L		96	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	115		ng/L		95	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	52		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	93		50 - 200
13C8 PFOA	77		50 - 200
13C9 PFNA	69		50 - 200
13C7 PFUnA	49	*5-	50 - 200
13C2 PFDoA	59		50 - 200
13C4 PFBA	89		50 - 200
13C5 PFPeA	92		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	103		50 - 200

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-146453-B-5-A MS

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 148273

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	121		50 - 200
13C2-6:2-FTS	124		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-146453-C-5-A MSD

Matrix: Water

Analysis Batch: 148439

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 148273

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	106		ng/L		88	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		120	104		ng/L		87	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	100		ng/L		83	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	112		ng/L		93	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	117		ng/L		97	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		120	108	*5-	ng/L		90	70 - 130	3	30
Perfluorododecanoic acid (PFDaA)	<2.0		120	112	*5-	ng/L		93	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	106		ng/L		88	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	110		ng/L		91	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	120		ng/L		99	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		120	113		ng/L		93	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	114		ng/L		94	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		120	112		ng/L		93	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	119	*5-	ng/L		99	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	2.9		120	120		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	124		ng/L		103	70 - 130	6	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	113		ng/L		94	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	113		ng/L		94	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	96.7		ng/L		80	70 - 130	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		120	122		ng/L		101	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	114		ng/L		94	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	110		ng/L		92	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	115		ng/L		95	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	114		ng/L		95	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	115		ng/L		95	70 - 130	0	30

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QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	87		50 - 200
13C6 PFDA	44	*5-	50 - 200
13C5 PFHxA	91		50 - 200
13C4 PFHpA	92		50 - 200
13C8 PFOA	76		50 - 200
13C9 PFNA	63		50 - 200
13C7 PFUnA	35	*5-	50 - 200
13C2 PFDoA	42	*5-	50 - 200
13C4 PFBA	91		50 - 200
13C5 PFPeA	96		50 - 200
13C3 PFBS	101		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	122		50 - 200
13C2-8:2-FTS	106		50 - 200

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

Lab Sample ID: MBL 380-148199/20-A
Matrix: Water
Analysis Batch: 148301

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 148199

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/18/25 13:45	04/19/25 15:58	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	93		70 - 130			04/18/25 13:45	04/19/25 15:58	1
13C2 PFHxA	102		70 - 130			04/18/25 13:45	04/19/25 15:58	1
13C2 PFDA	104		70 - 130			04/18/25 13:45	04/19/25 15:58	1

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QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-148199/20-A
Matrix: Water
Analysis Batch: 148301

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 148199

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	92		70 - 130	04/18/25 13:45	04/19/25 15:58	1

Lab Sample ID: LCS 380-148199/22-A
Matrix: Water
Analysis Batch: 148301

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 148199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	25.0	18.6		ng/L		75	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	25.0	24.6		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.0	23.7		ng/L		95	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.0	20.1		ng/L		81	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.0	19.7		ng/L		79	70 - 130
Perfluorohexanoic acid (PFHxA)	25.0	21.9		ng/L		88	70 - 130
Perfluorododecanoic acid (PFDoA)	25.0	23.2		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	25.0	22.2		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	25.0	22.6		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.0	25.0		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.0	22.2		ng/L		89	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.0	23.0		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	25.0	23.1		ng/L		92	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.0	21.1		ng/L		84	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.0	21.6		ng/L		86	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.0	23.2		ng/L		93	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.0	21.7		ng/L		87	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.0	20.4		ng/L		81	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	87		70 - 130
13C2 PFHxA	95		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	85		70 - 130

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-148199/21-A

Matrix: Water

Analysis Batch: 148301

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 148199

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.55	J	ng/L		77	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.01	J	ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.00	J	ng/L		100	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.67	J	ng/L		83	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.77	J	ng/L		88	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.83	J	ng/L		91	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.04	J	ng/L		102	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.80	J	ng/L		90	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	1.78	J	ng/L		89	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.90	J	ng/L		95	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.81	J	ng/L		90	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.66	J	ng/L		83	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	87		70 - 130
13C2 PFHxA	94		70 - 130
13C2 PFDA	96		70 - 130
13C3-GenX	76		70 - 130

Lab Sample ID: 380-146354-B-1-A MS

Matrix: Water

Analysis Batch: 148301

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 148199

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		25.1	18.7		ng/L		74	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	25.0		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	24.1		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	23.0		ng/L		92	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-146354-B-1-A MS

Matrix: Water

Analysis Batch: 148301

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 148199

Perfluorinated Acid Data									
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	22.6		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	25.1		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	24.0		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	24.6		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	23.5		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.1		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	25.2		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	24.2		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	23.1		ng/L		92	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	23.6		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.1	22.2		ng/L		89	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	23.5		ng/L		94	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	22.0		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	22.4		ng/L		90	70 - 130
					</				

Lab Sample ID: 380-146354-C-1-A MSD

Matrix: Water

Analysis Batch: 148301

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 148199

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	21.4		ng/L		85	70 - 130	14	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	24.8		ng/L		99	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.5		ng/L		102	70 - 130	5	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	23.1		ng/L		92	70 - 130	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	21.1		ng/L		84	70 - 130	7	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	25.5		ng/L		98	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	24.5		ng/L		98	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	24.3		ng/L		94	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	23.5		ng/L		94	70 - 130	0	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-146407-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-146354-C-1-A MSD

Matrix: Water

Analysis Batch: 148301

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 148199

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	26.6		ng/L		101	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	24.5		ng/L		95	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.1		ng/L		100	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	23.8		ng/L		95	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	23.3		ng/L		93	70 - 130	1	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.1	23.0		ng/L		92	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	22.9		ng/L		91	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	21.8		ng/L		87	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	24.3		ng/L		97	70 - 130	8	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	92		70 - 130								
13C2 PFHxA	101		70 - 130								
13C2 PFDA	104		70 - 130								
13C3-GenX	92		70 - 130								

QC Association Summary

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

Job ID: 380-146407-1
SDG: Weekly PFAS

LCMS

Prep Batch: 148199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-146407-1	Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	
380-146407-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	
MBL 380-148199/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-148199/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-148199/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-146354-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-146354-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 148273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-146407-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	
380-146407-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	533	
MBL 380-148273/22-A	Method Blank	Total/NA	Water	533	
LCS 380-148273/24-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-148273/23-A	Lab Control Sample	Total/NA	Water	533	
380-146453-B-5-A MS	Matrix Spike	Total/NA	Water	533	
380-146453-C-5-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 148301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-146407-1	Halawa Shaft Viewing Pool	Total/NA	Water	537.1	148199
380-146407-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	537.1	148199
MBL 380-148199/20-A	Method Blank	Total/NA	Water	537.1	148199
LCS 380-148199/22-A	Lab Control Sample	Total/NA	Water	537.1	148199
MRL 380-148199/21-A	Lab Control Sample	Total/NA	Water	537.1	148199
380-146354-B-1-A MS	Matrix Spike	Total/NA	Water	537.1	148199
380-146354-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	148199

Analysis Batch: 148439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-146407-1	Halawa Shaft Viewing Pool	Total/NA	Water	533	148273
380-146407-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	533	148273
MBL 380-148273/22-A	Method Blank	Total/NA	Water	533	148273
LCS 380-148273/24-A	Lab Control Sample	Total/NA	Water	533	148273
MRL 380-148273/23-A	Lab Control Sample	Total/NA	Water	533	148273
380-146453-B-5-A MS	Matrix Spike	Total/NA	Water	533	148273
380-146453-C-5-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	148273

Lab Chronicle

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

Job ID: 380-146407-1
SDG: Weekly PFAS

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-1

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			148273	E9PK	EA POM	04/18/25 17:01
Total/NA	Analysis	533		1	148439	M7ML	EA POM	04/21/25 15:01
Total/NA	Prep	537.1 DW			148199	E2HD	EA POM	04/18/25 13:45
Total/NA	Analysis	537.1		1	148301	M7ML	EA POM	04/19/25 19:44

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-146407-2

Date Collected: 04/15/25 10:00

Matrix: Water

Date Received: 04/17/25 10:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			148273	E9PK	EA POM	04/18/25 17:01
Total/NA	Analysis	533		1	148439	M7ML	EA POM	04/21/25 15:11
Total/NA	Prep	537.1 DW			148199	E2HD	EA POM	04/18/25 13:45
Total/NA	Analysis	537.1		1	148301	M7ML	EA POM	04/19/25 19:54

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: 380-146407-1
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
- 5
- 6
- 7
- 8
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- 10
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- 15
- 16
- 17

Method Summary

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

Job ID: 380-146407-1
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: 380-146407-1
SDG: Weekly PFAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-146407-1	Halawa Shaft Viewing Pool	Water	04/15/25 10:00	04/17/25 10:17
380-146407-2	FB: Halawa Shaft Viewing Pool	Water	04/15/25 10:00	04/17/25 10:17

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

[illegible]

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-146407-1

SDG Number: Weekly PFAS

Login Number: 146407

List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Gerfen, Chris

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	