

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL

JOB NUMBER

380-171129-1

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
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1100

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Definitions/Glossary

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

Job ID: 380-171129-1

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: 380-171129-1

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Job Narrative 380-171129-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

Receipt

The samples were received on 9/11/2025 9:47 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 5.8°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: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-171129-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: HALAWA SHAFT VIEWING POOL BLANK

Lab Sample ID: 380-171129-2

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: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-171129-1

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:18	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C6 PFDA	94		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C5 PFHxA	93		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C4 PFHpA	89		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C8 PFOA	92		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C9 PFNA	92		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C7 PFUnA	97		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C2 PFDoA	97		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C4 PFBA	98		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C5 PFPeA	97		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C3 PFBS	122		50 - 200			09/15/25 07:49	09/15/25 23:18	1
13C3 PFHxS	119		50 - 200			09/15/25 07:49	09/15/25 23:18	1

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Client Sample Results

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

Job ID: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-171129-1

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	116		50 - 200	09/15/25 07:49	09/15/25 23:18	1
13C2-4:2-FTS	124		50 - 200	09/15/25 07:49	09/15/25 23:18	1
13C2-6:2-FTS	113		50 - 200	09/15/25 07:49	09/15/25 23:18	1
13C2-8:2-FTS	111		50 - 200	09/15/25 07:49	09/15/25 23:18	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		09/15/25 03:31	09/15/25 20:06	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130			09/15/25 03:31	09/15/25 20:06	1
13C2 PFHxA	109		70 - 130			09/15/25 03:31	09/15/25 20:06	1
13C2 PFDA	100		70 - 130			09/15/25 03:31	09/15/25 20:06	1
13C3-GenX	105		70 - 130			09/15/25 03:31	09/15/25 20:06	1

Client Sample ID: HALAWA SHAFT VIEWING POOL BLANK

Lab Sample ID: 380-171129-2

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

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		09/15/25 07:49	09/15/25 23:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
4,8-Dioxo-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL BLANK

Lab Sample ID: 380-171129-2

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

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		09/15/25 07:49	09/15/25 23:28	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/15/25 07:49	09/15/25 23:28	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C6 PFDA	111		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C5 PFHxA	114		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C4 PFHpA	115		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C8 PFOA	117		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C9 PFNA	113		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C7 PFUnA	112		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C2 PFDoA	110		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C4 PFBA	115		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C5 PFPeA	116		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C3 PFBS	120		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C3 PFHxS	119		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C8 PFOS	112		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C2-4:2-FTS	120		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C2-6:2-FTS	114		50 - 200			09/15/25 07:49	09/15/25 23:28	1
13C2-8:2-FTS	113		50 - 200			09/15/25 07:49	09/15/25 23:28	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL BLANK

Lab Sample ID: 380-171129-2

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

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		09/15/25 03:31	09/15/25 20:17	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/15/25 03:31	09/15/25 20:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97		70 - 130			09/15/25 03:31	09/15/25 20:17	1
13C2 PFHxA	98		70 - 130			09/15/25 03:31	09/15/25 20:17	1
13C2 PFDA	93		70 - 130			09/15/25 03:31	09/15/25 20:17	1
13C3-GenX	92		70 - 130			09/15/25 03:31	09/15/25 20:17	1

Action Limit Summary

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

Job ID: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-171129-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	537.1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		ng/L	4	2.0	537.1	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		ng/L	10	2.0	537.1	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	537.1	Total/NA

Client Sample ID: HALAWA SHAFT VIEWING POOL BLANK

Lab Sample ID: 380-171129-2

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: 380-171129-1

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)
380-171108-A-1-A MS	Matrix Spike	98	102	98	95
380-171108-A-1-B MSD	Matrix Spike Duplicate	100	97	95	94
380-171129-1	HALAWA SHAFT VIEWING POOL	106	109	100	105
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	97	98	93	92
LCS 380-174088/22-A	Lab Control Sample	98	102	97	98
MBL 380-174088/20-A	Method Blank	106	114	111	113
MRL 380-174088/21-A	Lab Control Sample	92	98	95	91
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: 380-171129-1

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)
380-171129-1	HALAWA SHAFT VIEWING POOL	79	94	93	89	92	92	97	97
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	100	111	114	115	117	113	112	110
380-171268-A-1-B MS	Matrix Spike	104	112	112	111	113	113	109	108
380-171268-A-1-C MSD	Matrix Spike Duplicate	105	114	114	114	117	113	115	112
LCS 380-174099/22-A	Lab Control Sample	100	110	112	113	112	114	112	110
MBL 380-174099/20-A	Method Blank	104	112	114	113	114	112	108	108
MRL 380-174099/21-A	Lab Control Sample	105	112	115	114	118	112	110	109
		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)
380-171129-1	HALAWA SHAFT VIEWING POOL	98	97	122	119	116	124	113	111
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	115	116	120	119	112	120	114	113
380-171268-A-1-B MS	Matrix Spike	114	118	115	112	110	120	118	112
380-171268-A-1-C MSD	Matrix Spike Duplicate	113	118	115	114	109	122	115	115
LCS 380-174099/22-A	Lab Control Sample	115	118	116	112	110	120	111	110
MBL 380-174099/20-A	Method Blank	114	118	119	115	112	125	119	109
MRL 380-174099/21-A	Lab Control Sample	117	121	122	119	116	125	120	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									
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: 380-171129-1

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

Lab Sample ID: MBL 380-174099/20-A

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 174099

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		09/15/25 07:49	09/15/25 21:21	1
Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C6 PFDA	112		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C5 PFHxA	114		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C4 PFHpA	113		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C8 PFOA	114		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C9 PFNA	112		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C7 PFUnA	108		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C2 PFDoA	108		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C4 PFBA	114		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C5 PFPeA	118		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C3 PFBS	119		50 - 200			09/15/25 07:49	09/15/25 21:21	1
13C3 PFHxS	115		50 - 200			09/15/25 07:49	09/15/25 21:21	1

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: MBL 380-174099/20-A

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 174099

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	112		50 - 200	09/15/25 07:49	09/15/25 21:21	1
13C2-4:2-FTS	125		50 - 200	09/15/25 07:49	09/15/25 21:21	1
13C2-6:2-FTS	119		50 - 200	09/15/25 07:49	09/15/25 21:21	1
13C2-8:2-FTS	109		50 - 200	09/15/25 07:49	09/15/25 21:21	1

Lab Sample ID: LCS 380-174099/22-A

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	60.6		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	59.8		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.4	55.5		ng/L		92	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	57.8		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	60.6		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	59.1		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	58.3		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.4	58.6		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	58.0		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	57.4		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	60.4	58.9		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	61.5		ng/L		102	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	58.1		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	58.2		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	57.2		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	59.1		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	58.5		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	59.7		ng/L		99	70 - 130
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	60.4	53.3		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	60.4	57.3		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	58.4		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	54.3		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	56.2		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	58.4		ng/L		97	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: LCS 380-174099/22-A

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.4	58.3		ng/L		97	70 - 130
	LCS	LCS					
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	100		50 - 200				
13C6 PFDA	110		50 - 200				
13C5 PFHxA	112		50 - 200				
13C4 PFHpA	113		50 - 200				
13C8 PFOA	112		50 - 200				
13C9 PFNA	114		50 - 200				
13C7 PFUnA	112		50 - 200				
13C2 PFDoA	110		50 - 200				
13C4 PFBA	115		50 - 200				
13C5 PFPeA	118		50 - 200				
13C3 PFBS	116		50 - 200				
13C3 PFHxS	112		50 - 200				
13C8 PFOS	110		50 - 200				
13C2-4:2-FTS	120		50 - 200				
13C2-6:2-FTS	111		50 - 200				
13C2-8:2-FTS	110		50 - 200				

Lab Sample ID: MRL 380-174099/21-A

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174099

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.02	J	ng/L		100	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.96	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.87	J	ng/L		93	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.96	J	ng/L		97	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.90	J	ng/L		94	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.87	J	ng/L		93	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.89	J	ng/L		94	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.88	J	ng/L		94	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.94	J	ng/L		96	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.88	J	ng/L		93	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.99	J	ng/L		99	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: MRL 380-174099/21-A

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174099

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.09	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.11	J	ng/L		105	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	1.96	J	ng/L		97	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.85	J	ng/L		92	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	2.01	1.86	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.94	J	ng/L		96	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.78	J	ng/L		88	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.88	J	ng/L		94	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.06	J	ng/L		102	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.87	J	ng/L		93	50 - 150

Isotope Dilution	%Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	115		50 - 200
13C4 PFHpA	114		50 - 200
13C8 PFOA	118		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	110		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	117		50 - 200
13C5 PFPeA	121		50 - 200
13C3 PFBS	122		50 - 200
13C3 PFHxS	119		50 - 200
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	125		50 - 200
13C2-6:2-FTS	120		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: 380-171268-A-1-B MS

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174099

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	64.9		ng/L		108	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	61.4		ng/L		102	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	59.3		ng/L		98	70 - 130

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QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: 380-171268-A-1-B MS

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174099

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.2	60.1		ng/L		100	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	62.8		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	61.4		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	63.7		ng/L		106	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	60.1		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	59.8		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	59.5		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	61.3		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	63.4		ng/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	60.5		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	61.7		ng/L		102	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	59.4		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	62.2		ng/L		103	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	59.4		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	60.1		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	55.1		ng/L		91	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	61.7		ng/L		102	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	55.7		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	58.8		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.5		ng/L		100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	60.2		ng/L		100	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	104		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	113		50 - 200
13C9 PFNA	113		50 - 200
13C7 PFUnA	109		50 - 200
13C2 PFDoA	108		50 - 200
13C4 PFBA	114		50 - 200
13C5 PFPeA	118		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	110		50 - 200

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QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: 380-171268-A-1-B MS

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174099

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	120		50 - 200
13C2-6:2-FTS	118		50 - 200
13C2-8:2-FTS	112		50 - 200

Lab Sample ID: 380-171268-A-1-C MSD

Matrix: Water

Analysis Batch: 174202

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 174099

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	62.8		ng/L		104	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		60.2	60.2		ng/L		100	70 - 130	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	58.7		ng/L		97	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	59.1		ng/L		98	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	63.8		ng/L		106	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	59.9		ng/L		100	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	58.8		ng/L		98	70 - 130	8	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	59.4		ng/L		99	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	58.6		ng/L		97	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	58.8		ng/L		98	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	59.8		ng/L		99	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		60.2	61.6		ng/L		102	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	58.1		ng/L		96	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	57.5		ng/L		95	70 - 130	7	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	58.7		ng/L		97	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.5		ng/L		100	70 - 130	3	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	58.3		ng/L		97	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	60.0		ng/L		100	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	54.8		ng/L		91	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	58.3		ng/L		97	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	57.9		ng/L		96	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	54.1		ng/L		90	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	55.5		ng/L		92	70 - 130	6	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	59.8		ng/L		99	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	57.9		ng/L		96	70 - 130	4	30

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QC Sample Results

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

Job ID: 380-171129-1

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	105		50 - 200
13C6 PFDA	114		50 - 200
13C5 PFHxA	114		50 - 200
13C4 PFHpA	114		50 - 200
13C8 PFOA	117		50 - 200
13C9 PFNA	113		50 - 200
13C7 PFUnA	115		50 - 200
13C2 PFDoA	112		50 - 200
13C4 PFBA	113		50 - 200
13C5 PFPeA	118		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	122		50 - 200
13C2-6:2-FTS	115		50 - 200
13C2-8:2-FTS	115		50 - 200

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

Lab Sample ID: MBL 380-174088/20-A
Matrix: Water
Analysis Batch: 174195

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 174088

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		09/15/25 03:31	09/15/25 18:19	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		09/15/25 03:31	09/15/25 18:19	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	106		70 - 130			09/15/25 03:31	09/15/25 18:19	1
13C2 PFHxA	114		70 - 130			09/15/25 03:31	09/15/25 18:19	1
13C2 PFDA	111		70 - 130			09/15/25 03:31	09/15/25 18:19	1

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QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: MBL 380-174088/20-A

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 174088

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	113		70 - 130	09/15/25 03:31	09/15/25 18:19	1

Lab Sample ID: LCS 380-174088/22-A

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174088

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	25.1	22.6		ng/L		90	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	25.1	22.7		ng/L		91	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	22.5		ng/L		90	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	22.9		ng/L		91	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	24.7		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	23.1		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	22.3		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	22.7		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	23.6		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	25.1	23.6		ng/L		94	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	23.6		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	23.8		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	25.1	22.8		ng/L		91	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	21.0		ng/L		84	70 - 130
Perfluorotridecanoic acid (PFTrDA)	25.1	23.1		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	23.2		ng/L		93	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	22.5		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	23.3		ng/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	102		70 - 130
13C2 PFDA	97		70 - 130
13C3-GenX	98		70 - 130

QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: MRL 380-174088/21-A

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 174088

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	2.01	1.95	J	ng/L		97	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	2.01	2.05	J	ng/L		102	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.86	J	ng/L		92	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	1.88	J	ng/L		94	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.82	J	ng/L		91	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.83	J	ng/L		91	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.06	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.94	J	ng/L		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.96	J	ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.71	J	ng/L		85	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	1.87	J	ng/L		93	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.96	J	ng/L		98	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.91	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.89	J	ng/L		94	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	92		70 - 130
13C2 PFHxA	98		70 - 130
13C2 PFDA	95		70 - 130
13C3-GenX	91		70 - 130

Lab Sample ID: 380-171108-A-1-A MS

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174088

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		25.2	22.0		ng/L		88	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	24.2		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	24.0		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	23.7		ng/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: 380-171108-A-1-A MS

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 174088

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier			Limits	Limits		
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	<2.0		25.2	24.4		ng/L		97	70 - 130		
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	22.9		ng/L		91	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	22.4		ng/L		89	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		25.2	23.3		ng/L		92	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		25.2	23.4		ng/L		93	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	24.5		ng/L		97	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	25.9		ng/L		103	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		25.2	24.0		ng/L		95	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		25.2	23.8		ng/L		95	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	22.8		ng/L		91	70 - 130		
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.2	23.2		ng/L		92	70 - 130		
9-Chlorohexadecafluoro-3-oxan onane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	24.1		ng/L		96	70 - 130		
11-Chloroeicosafluoro-3-oxaund ecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	23.5		ng/L		93	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	23.6		ng/L		94	70 - 130		
								</			

Lab Sample ID: 380-171108-A-1-B MSD

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 174088

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		25.2	22.5		ng/L		89	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	23.9		ng/L		95	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	23.2		ng/L		92	70 - 130	4	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	24.5		ng/L		97	70 - 130	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NETFOSAA)	<2.0		25.2	25.0		ng/L		99	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.2	23.2		ng/L		92	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.2	22.6		ng/L		90	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		25.2	22.9		ng/L		91	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		25.2	22.8		ng/L		90	70 - 130	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-171129-1

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

Lab Sample ID: 380-171108-A-1-B MSD

Matrix: Water

Analysis Batch: 174195

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 174088

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.2	24.6		ng/L		98	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.2	25.1		ng/L		99	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.2	24.7		ng/L		98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	<2.0		25.2	23.2		ng/L		92	70 - 130	3	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.2	21.9		ng/L		87	70 - 130	4	30
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.2	23.1		ng/L		92	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.2	24.2		ng/L		96	70 - 130	0	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.2	23.5		ng/L		93	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.2	22.9		ng/L		91	70 - 130	3	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	100		70 - 130								
13C2 PFHxA	97		70 - 130								
13C2 PFDA	95		70 - 130								
13C3-GenX	94		70 - 130								

QC Association Summary

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

Job ID: 380-171129-1

LCMS

Prep Batch: 174088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171129-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	Total/NA	Water	537.1 DW	
MBL 380-174088/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-174088/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-174088/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-171108-A-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-171108-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 174099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171129-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	Total/NA	Water	533	
MBL 380-174099/20-A	Method Blank	Total/NA	Water	533	
LCS 380-174099/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-174099/21-A	Lab Control Sample	Total/NA	Water	533	
380-171268-A-1-B MS	Matrix Spike	Total/NA	Water	533	
380-171268-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 174195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171129-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1	174088
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	Total/NA	Water	537.1	174088
MBL 380-174088/20-A	Method Blank	Total/NA	Water	537.1	174088
LCS 380-174088/22-A	Lab Control Sample	Total/NA	Water	537.1	174088
MRL 380-174088/21-A	Lab Control Sample	Total/NA	Water	537.1	174088
380-171108-A-1-A MS	Matrix Spike	Total/NA	Water	537.1	174088
380-171108-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	174088

Analysis Batch: 174202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-171129-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	174099
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	Total/NA	Water	533	174099
MBL 380-174099/20-A	Method Blank	Total/NA	Water	533	174099
LCS 380-174099/22-A	Lab Control Sample	Total/NA	Water	533	174099
MRL 380-174099/21-A	Lab Control Sample	Total/NA	Water	533	174099
380-171268-A-1-B MS	Matrix Spike	Total/NA	Water	533	174099
380-171268-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	174099

Lab Chronicle

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

Job ID: 380-171129-1

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-171129-1

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			174099	XTD8	EA POM	09/15/25 07:49
Total/NA	Analysis	533		1	174202	SZ9R	EA POM	09/15/25 23:18
Total/NA	Prep	537.1 DW			174088	G9MN	EA POM	09/15/25 03:31
Total/NA	Analysis	537.1		1	174195	M7ML	EA POM	09/15/25 20:06

Client Sample ID: HALAWA SHAFT VIEWING POOL BLANK

Lab Sample ID: 380-171129-2

Date Collected: 09/09/25 12:08

Matrix: Water

Date Received: 09/11/25 09:47

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			174099	XTD8	EA POM	09/15/25 07:49
Total/NA	Analysis	533		1	174202	SZ9R	EA POM	09/15/25 23:28
Total/NA	Prep	537.1 DW			174088	G9MN	EA POM	09/15/25 03:31
Total/NA	Analysis	537.1		1	174195	M7ML	EA POM	09/15/25 20:17

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: 380-171129-1

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
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Method Summary

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

Job ID: 380-171129-1

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: 380-171129-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-171129-1	HALAWA SHAFT VIEWING POOL	Water	09/09/25 12:08	09/11/25 09:47	Hawaii
380-171129-2	HALAWA SHAFT VIEWING POOL BLANK	Water	09/09/25 12:08	09/11/25 09:47	Hawaii

- 1
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- 5
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- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Monrovia, CA (Suite 100)

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

Chain of Custody Record



Environment Testing,
Anteri



380-171129 COC

Client Information Client Contact: Jason Rakofsky Phone: +1 808 748 5840		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com		Carrier Tracking No(s): State of Origin:		COC No: 380-27941-2757.2 Page: Page 2 of 2 Job #:	
Company: City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State, Zip: HI, 96843 Phone: 808-748-5840 (tel) Email: kiwamoto@hbws.org Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill Site:		Due Date Requested: TAT Requested (days): RUSH Compliance Project: ☐ No ☒ Yes PO #: C20525101 exp 05312023 WFO #: 38001111 Project #: SSOW#		Analysis Requested			
Sample Identification Halawa Shaft Viewing Pool Halawa Shaft Viewing Pool Blank		Sample Date 9-Sep-2025 9-Sep-2025		Sample Type (C=Comp, G=grab) G G		Matrix (W=Water, S=Soil, O=Other) Water Water	
Field Filled Sample (Yes or No) ☒ Perform MS/MSD (Yes or No) ☒ SUBCONTRACT - 626 PAH Physic LL (EAL) + TICs 8015B_GRO_LL - (MOD) GRO 8015B_PRO_LL_G8 - HNL Ranges C10-C24/C24-C36/C8- C18 526.2_PREC - (MOD) 526plus PLUS TICs 537.1_DW_PREC - 537.1 Full List 533 - All Analytes		Total Number of Containers: 33 Special Instructions/Note:					
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months					
Empty Kit Relinquished by Relinquished by Relinquished by Relinquished by		Date: 9/16/25 11:00		Method of Shipment: FedEx 80027661751 Date/Time: 9/16/25 9:47 Date/Time: 9:47 Date/Time:			
Custody Seals Intact: ☐ Yes ☒ No		Custody Seal No.		Cooler Temperature(s) 3C and Other Remarks: (40.1) 6.0 - 0.2 = 5.8 GEL PROGAN			

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-171129-1

Login Number: 171129

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	