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ANALYTICAL REPORT

PREPARED FOR

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

Generated 2/6/2025 10:49:44 AM

JOB DESCRIPTION

RED-HILL
Weekly PFAS

JOB NUMBER

380-133101-1

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: 380-133101-1
SDG: Weekly PFAS

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

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

Job ID: 380-133101-1

Job ID: 380-133101-1

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Job Narrative 380-133101-1

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 1/31/2025 10:27 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 1.9°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: 380-133101-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.8		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.0		2.0	ng/L	1		537.1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0	ng/L	1		537.1	Total/NA

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-2

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: 380-133101-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-1

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

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		02/03/25 14:51	02/04/25 14:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorohexanesulfonic acid (PFHxS)	3.8		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 14:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C6 PFDA	100		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C5 PFHxA	98		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C4 PFHpA	104		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C8 PFOA	107		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C9 PFNA	106		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C7 PFUnA	100		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C2 PFDoA	106		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C4 PFBA	106		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C5 PFPeA	112		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C3 PFBS	99		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C3 PFHxS	103		50 - 200	02/03/25 14:51	02/04/25 14:53	1

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Client Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-1

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	108		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C2-4:2-FTS	141		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C2-6:2-FTS	137		50 - 200	02/03/25 14:51	02/04/25 14:53	1
13C2-8:2-FTS	126		50 - 200	02/03/25 14:51	02/04/25 14:53	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		02/01/25 17:03	02/03/25 00:05	1
Perfluorooctanesulfonic acid (PFOS)	4.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorohexanesulfonic acid (PFHxS)	3.9		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:05	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	112		70 - 130	02/01/25 17:03	02/03/25 00:05	1		
13C2 PFHxA	111		70 - 130	02/01/25 17:03	02/03/25 00:05	1		
13C2 PFDA	106		70 - 130	02/01/25 17:03	02/03/25 00:05	1		
13C3-GenX	105		70 - 130	02/01/25 17:03	02/03/25 00:05	1		

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-2

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1

Eurofins Eaton Analytical Pomona

Client Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-2

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

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		02/03/25 14:51	02/04/25 15:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		02/03/25 14:51	02/04/25 15:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C6 PFDA	102		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C5 PFHxA	100		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C4 PFHpA	108		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C8 PFOA	106		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C9 PFNA	106		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C7 PFUnA	100		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C2 PFDoA	103		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C4 PFBA	106		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C5 PFPeA	106		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C3 PFBS	97		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C3 PFHxS	104		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C8 PFOS	105		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C2-4:2-FTS	132		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C2-6:2-FTS	131		50 - 200	02/03/25 14:51	02/04/25 15:02	1
13C2-8:2-FTS	118		50 - 200	02/03/25 14:51	02/04/25 15:02	1

Client Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-2

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

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		02/01/25 17:03	02/03/25 00:15	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/01/25 17:03	02/03/25 00:15	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130			02/01/25 17:03	02/03/25 00:15	1
13C2 PFHxA	109		70 - 130			02/01/25 17:03	02/03/25 00:15	1
13C2 PFDA	104		70 - 130			02/01/25 17:03	02/03/25 00:15	1
13C3-GenX	104		70 - 130			02/01/25 17:03	02/03/25 00:15	1

Action Limit Summary

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

Job ID: 380-133101-1
SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-1

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)	3.8		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		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)	4.0		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)	3.9		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: 380-133101-2

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: 380-133101-1
 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	PFHxA	PFDA	GenX
		(70-130)	(70-130)	(70-130)	(70-130)
380-132940-D-4-A MS	Matrix Spike	108	112	106	106
380-132940-E-4-A MSD	Matrix Spike Duplicate	103	103	103	99
380-133101-1	HALAWA SHAFT VIEWING POOL	112	111	106	105
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	100	109	104	104
LCS 380-132000/20-A	Lab Control Sample	101	116	112	112
MBL 380-132000/18-A	Method Blank	116	116	109	117
MRL 380-132000/19-A	Lab Control Sample	102	107	108	104

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: 380-133101-1
 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)
380-133101-1	HALAWA SHAFT VIEWING POC	93	100	98	104	107	106	100	106
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	93	102	100	108	106	106	100	103
380-133144-B-1-A MS	Matrix Spike	100	102	106	109	107	105	107	107
380-133144-C-1-A MSD	Matrix Spike Duplicate	102	102	103	110	109	108	106	106
LCS 380-132285/22-A	Lab Control Sample	94	103	103	107	108	106	102	106
MBL 380-132285/20-A	Method Blank	90	102	100	106	105	102	101	100
MRL 380-132285/21-A	Lab Control Sample	88	104	104	107	107	106	104	106

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)
380-133101-1	HALAWA SHAFT VIEWING POC	106	112	99	103	108	141	137	126
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	106	106	97	104	105	132	131	118
380-133144-B-1-A MS	Matrix Spike	109	117	101	104	103	129	136	113
380-133144-C-1-A MSD	Matrix Spike Duplicate	110	114	102	105	104	128	134	118
LCS 380-132285/22-A	Lab Control Sample	109	111	104	105	106	131	133	116
MBL 380-132285/20-A	Method Blank	109	109	105	106	106	128	133	115
MRL 380-132285/21-A	Lab Control Sample	104	104	103	106	106	129	135	116

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- 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: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-132285/20-A
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 132285

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		02/03/25 14:51	02/04/25 13:27	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C6 PFDA	102		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C5 PFHxA	100		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C4 PFHpA	106		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C8 PFOA	105		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C9 PFNA	102		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C7 PFUnA	101		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C2 PFDoA	100		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C4 PFBA	109		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C5 PFPeA	109		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C3 PFBS	105		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C3 PFHxS	106		50 - 200	02/03/25 14:51	02/04/25 13:27	1

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QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-132285/20-A
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 132285

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	106		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C2-4:2-FTS	128		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C2-6:2-FTS	133		50 - 200	02/03/25 14:51	02/04/25 13:27	1
13C2-8:2-FTS	115		50 - 200	02/03/25 14:51	02/04/25 13:27	1

Lab Sample ID: LCS 380-132285/22-A
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.4	55.5		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.4	54.9		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.4	58.7		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.4	59.3		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.4	60.9		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	60.4	59.4		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	60.4	60.5		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.4	60.6		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.4	59.6		ng/L		99	70 - 130
Perfluorohexanoic acid (PFHxA)	60.4	60.2		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	60.4	59.6		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.4	57.4		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	60.4	57.2		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.4	62.8		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	60.4	58.3		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.4	60.8		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.4	60.4		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.4	60.3		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.4	53.3		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.4	56.0		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.4	58.6		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.4	59.0		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	60.4	59.0		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.4	57.2		ng/L		95	70 - 130

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: LCS 380-132285/22-A
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.4	60.5		ng/L		100	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	94		50 - 200				
13C6 PFDA	103		50 - 200				
13C5 PFHxA	103		50 - 200				
13C4 PFHpA	107		50 - 200				
13C8 PFOA	108		50 - 200				
13C9 PFNA	106		50 - 200				
13C7 PFUnA	102		50 - 200				
13C2 PFDoA	106		50 - 200				
13C4 PFBA	109		50 - 200				
13C5 PFPeA	111		50 - 200				
13C3 PFBS	104		50 - 200				
13C3 PFHxS	105		50 - 200				
13C8 PFOS	106		50 - 200				
13C2-4:2-FTS	131		50 - 200				
13C2-6:2-FTS	133		50 - 200				
13C2-8:2-FTS	116		50 - 200				

Lab Sample ID: MRL 380-132285/21-A
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132285

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.88	J	ng/L		94	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.78	J	ng/L		88	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.01	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.92	J	ng/L		95	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.06	J	ng/L		103	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.04	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.06	J	ng/L		103	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.06	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.08	J	ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.92	J	ng/L		95	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.01	J	ng/L		100	50 - 150

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-132285/21-A
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132285

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.16	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.16	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.07	J	ng/L		103	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.98	J	ng/L		98	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.87	J	ng/L		93	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.08	J	ng/L		103	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.16	J	ng/L		108	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.06	J	ng/L		102	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.04	J	ng/L		101	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	104		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	104		50 - 200
13C5 PFPeA	104		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	129		50 - 200
13C2-6:2-FTS	135		50 - 200
13C2-8:2-FTS	116		50 - 200

Lab Sample ID: 380-133144-B-1-A MS
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 132285

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		62.4	57.4		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		62.4	57.4		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		62.4	60.3		ng/L		97	70 - 130

QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-133144-B-1-A MS
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 132285

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		62.4	60.1		ng/L		96	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		62.4	63.7		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		62.4	61.5		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		62.4	62.6		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		62.4	62.7		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		62.4	62.7		ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		62.4	60.3		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		62.4	61.9		ng/L		99	70 - 130
Perfluorooctanesulfonic acid (PFOS)	8.1		62.4	65.3		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		62.4	61.5		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		62.4	60.7		ng/L		97	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		62.4	63.2		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		62.4	61.4		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		62.4	62.5		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		62.4	62.4		ng/L		100	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		62.4	63.7		ng/L		102	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		62.4	58.2		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		62.4	63.2		ng/L		101	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		62.4	62.4		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		62.4	61.0		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		62.4	63.4		ng/L		102	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		62.4	61.2		ng/L		98	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	107		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	117		50 - 200
13C3 PFBS	101		50 - 200
13C3 PFHxS	104		50 - 200
13C8 PFOS	103		50 - 200

QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-133144-B-1-A MS
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 132285

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	129		50 - 200
13C2-6:2-FTS	136		50 - 200
13C2-8:2-FTS	113		50 - 200

Lab Sample ID: 380-133144-C-1-A MSD
Matrix: Water
Analysis Batch: 132469

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 132285

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		60.5	57.1		ng/L		94	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.5	55.1		ng/L		91	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.5	57.0		ng/L		94	70 - 130	6	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.5	54.8		ng/L		91	70 - 130	9	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.5	62.5		ng/L		103	70 - 130	2	30
Perfluorodecanoic acid (PFDA)	<2.0		60.5	61.2		ng/L		101	70 - 130	0	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.5	61.1		ng/L		101	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.5	59.3		ng/L		98	70 - 130	6	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.5	60.6		ng/L		100	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.5	60.5		ng/L		100	70 - 130	0	30
Perfluorononanoic acid (PFNA)	<2.0		60.5	59.3		ng/L		98	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	8.1		60.5	62.5		ng/L		90	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		60.5	58.1		ng/L		96	70 - 130	6	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.5	61.0		ng/L		101	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	<2.0		60.5	59.8		ng/L		99	70 - 130	6	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.5	62.0		ng/L		103	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.5	59.8		ng/L		99	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.5	61.6		ng/L		102	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.5	52.0		ng/L		86	70 - 130	20	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.5	55.0		ng/L		91	70 - 130	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.5	61.6		ng/L		102	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.5	61.9		ng/L		102	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.5	60.9		ng/L		101	70 - 130	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.5	60.3		ng/L		100	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.5	59.6		ng/L		98	70 - 130	3	30

Eurofins Eaton Analytical Pomona

QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	102		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	114		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	104		50 - 200
13C2-4:2-FTS	128		50 - 200
13C2-6:2-FTS	134		50 - 200
13C2-8:2-FTS	118		50 - 200

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

Lab Sample ID: MBL 380-132000/18-A
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 132000

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		02/01/25 17:03	02/02/25 20:17	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		02/01/25 17:03	02/02/25 20:17	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	116		70 - 130			02/01/25 17:03	02/02/25 20:17	1
13C2 PFHxA	116		70 - 130			02/01/25 17:03	02/02/25 20:17	1
13C2 PFDA	109		70 - 130			02/01/25 17:03	02/02/25 20:17	1

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QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: MBL 380-132000/18-A
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 132000

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	117		70 - 130	02/01/25 17:03	02/02/25 20:17	1

Lab Sample ID: LCS 380-132000/20-A
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132000

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.3	51.0		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.3	53.0		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.3	54.8		ng/L		109	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.3	48.3		ng/L		96	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.3	45.2		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	50.3	52.3		ng/L		104	70 - 130
Perfluorododecanoic acid (PFDoA)	50.3	53.2		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	50.3	55.1		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	50.3	53.6		ng/L		107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.3	52.9		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.3	54.0		ng/L		107	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.3	56.2		ng/L		112	70 - 130
Perfluorononanoic acid (PFNA)	50.3	54.4		ng/L		108	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.3	56.9		ng/L		113	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.3	52.8		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	50.3	51.8		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.3	50.5		ng/L		100	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.3	53.6		ng/L		107	70 - 130

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	116		70 - 130
13C2 PFDA	112		70 - 130
13C3-GenX	112		70 - 130

QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: MRL 380-132000/19-A
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 132000

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.00	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.20	J	ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.19	J	ng/L		109	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.02	J	ng/L		100	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.14	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.14	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.22	J	ng/L		110	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.15	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.20	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.24	J	ng/L		112	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	2.33	J	ng/L		116	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.01	2.23	J	ng/L		111	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.20	J	ng/L		109	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.03	J	ng/L		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.18	J	ng/L		108	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	107		70 - 130
13C2 PFDA	108		70 - 130
13C3-GenX	104		70 - 130

Lab Sample ID: 380-132940-D-4-A MS
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 132000

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		25.0	24.5		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.0	26.9		ng/L		108	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.0	26.2		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.0	26.9		ng/L		108	70 - 130

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QC Sample Results

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

Job ID: 380-133101-1
SDG: Weekly PFAS

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

Lab Sample ID: 380-132940-D-4-A MS
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 132000

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.0	25.5		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.0	27.4		ng/L		109	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.0	24.7		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.0	27.2		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.0	26.4		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.0	26.2		ng/L		105	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.0	28.9		ng/L		116	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.0	28.3		ng/L		113	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.0	26.9		ng/L		107	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.0	29.8		ng/L		119	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		25.0	25.4		ng/L		102	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.0	26.1		ng/L		104	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.0	24.6		ng/L		98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.0	26.5		ng/L		106	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
d5-NEtFOSAA	108		70 - 130						
13C2 PFHxA	112		70 - 130						
13C2 PFDA	106		70 - 130						
13C3-GenX	106		70 - 130						

Lab Sample ID: 380-132940-E-4-A MSD
Matrix: Water
Analysis Batch: 132030

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 132000

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec Limits	RPD	Limit
				Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.0	24.7		ng/L		99	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.0	26.4		ng/L		106	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.0	26.6		ng/L		106	70 - 130	2	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.0	27.9		ng/L		112	70 - 130	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.0	27.0		ng/L		108	70 - 130	6	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.0	24.4		ng/L		98	70 - 130	11	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.0	25.6		ng/L		103	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	<2.0		25.0	27.2		ng/L		109	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		25.0	26.3		ng/L		105	70 - 130	0	30

QC Association Summary

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

Job ID: 380-133101-1
SDG: Weekly PFAS

LCMS

Prep Batch: 132000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-133101-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-132000/18-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-132000/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-132000/19-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-132940-D-4-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-132940-E-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 132030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-133101-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1	132000
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1	132000
MBL 380-132000/18-A	Method Blank	Total/NA	Water	537.1	132000
LCS 380-132000/20-A	Lab Control Sample	Total/NA	Water	537.1	132000
MRL 380-132000/19-A	Lab Control Sample	Total/NA	Water	537.1	132000
380-132940-D-4-A MS	Matrix Spike	Total/NA	Water	537.1	132000
380-132940-E-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1	132000

Prep Batch: 132285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-133101-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-132285/20-A	Method Blank	Total/NA	Water	533	
LCS 380-132285/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-132285/21-A	Lab Control Sample	Total/NA	Water	533	
380-133144-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-133144-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 132469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-133101-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	132285
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	132285
MBL 380-132285/20-A	Method Blank	Total/NA	Water	533	132285
LCS 380-132285/22-A	Lab Control Sample	Total/NA	Water	533	132285
MRL 380-132285/21-A	Lab Control Sample	Total/NA	Water	533	132285
380-133144-B-1-A MS	Matrix Spike	Total/NA	Water	533	132285
380-133144-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	132285

Lab Chronicle

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

Job ID: 380-133101-1
 SDG: Weekly PFAS

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-1

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			132285	HM3M	EA POM	02/03/25 14:51
Total/NA	Analysis	533		1	132469	SZ9R	EA POM	02/04/25 14:53
Total/NA	Prep	537.1 DW			132000	N8NE	EA POM	02/01/25 17:03
Total/NA	Analysis	537.1		1	132030	SZ9R	EA POM	02/03/25 00:05

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-133101-2

Date Collected: 01/29/25 10:00

Matrix: Water

Date Received: 01/31/25 10:27

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			132285	HM3M	EA POM	02/03/25 14:51
Total/NA	Analysis	533		1	132469	SZ9R	EA POM	02/04/25 15:02
Total/NA	Prep	537.1 DW			132000	N8NE	EA POM	02/01/25 17:03
Total/NA	Analysis	537.1		1	132030	SZ9R	EA POM	02/03/25 00:15

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: 380-133101-1
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	01-31-25 *

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

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

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

Job ID: 380-133101-1
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: 380-133101-1
SDG: Weekly PFAS

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
380-133101-1	HALAWA SHAFT VIEWING POOL	Water	01/29/25 10:00	01/31/25 10:27
380-133101-2	FB: HALAWA SHAFT VIEWING POOL	Water	01/29/25 10:00	01/31/25 10:27

- 1
- 2
- 3
- 4
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- 6
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- 11
- 12
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- 14
- 15
- 16
- 17

Chain of Custody Record

Client Information		Sampler: Arada, Rachelle		Carrier Tracking No(s): 380-28005-2757 1	
Client Contact: Kirik Iwamoto		Phone: 808-748-5840		COC No: 380-28005-2757 1	
Company: City & County of Honolulu		E-Mail: Rachelle.Arada@et.eurofins.com		Page: 1 of 1	
Address: 630 South Beretania Street Chemistry Lab		PWSID:		Job #:	
City: Honolulu		Due Date Requested:		Preservation Codes:	
State Zip: HI, 96843		TAT Requested (days):		R - NaThioSO4	
Phone: 808-748-5843		Compliance Project: Δ Yes Δ No		O - Na2SO3	
Email: Kiwamoto@hbws.org		PO #: C20525101 exp 05312023		CA - Na2SO3/HCl	
Project Name: RED-HILL/HBWS Sites Event Desc: RUSH Weekly Red Hill		WO #:		Y - Trizma	
Site: Hawaii		Project #: 38001111		I - NH4 Acetate	
		SOW#:		Other:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, G=soil, O=organic, I=Inorganic)	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		RA	QA	Y	I	Special Instructions/Notes:			
					Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)										
Halawa Shaft Viewing Pool	1/29/25	1000	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	625 1, 625 1, SIM	6015B_GRO_LL - (MOD) GRO	6015B_DRO_LL_CS - HNL Ranges C10-C24/C24-C36/C8-C18	625 2, PREC - (MOD) 625plus Plus TICs	637 1, DW_PREC - 637 1 Full List	533 - All Analytes	Total Number of containers	Temp blank. 3 °C
FB Halawa Shaft Viewing Pool	1/29/25	1000	G	Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								

Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment: FedEx 3717 5805 3493	
Relinquished by	Date: 1-29-2025 1040	Received by: Lesli Lantui	Date/Time: 1-29-2025 1040
Relinquished by	Date/Time: 1-29-2025 1200	Received by:	Date/Time: 01/31/25 10:27
Relinquished by		Received by:	Date/Time:
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 75°F 1.9°-0.0°-1.9° 6°F Frozen	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-133101-1

SDG Number: Weekly PFAS

Login Number: 133101

List Number: 1

Creator: Ngo, Theodore

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The coolers custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler(s) Temperature is acceptable.	True	
Cooler(s) Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and is legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

