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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-214038-1

Eurofins 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 Drinking Water and Wastewater West, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

Authorization



Authorized for release by
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Definitions/Glossary

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Qualifiers

LCMS

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

Glossary

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

Case Narrative

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

Job ID: 380-214038-1

Job ID: 380-214038-1

Eurofins Pomona

Job Narrative 380-214038-1

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 5/14/2026 10:16 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 1.6°C.

PFAS

EPA 537.1 and EPA 533 are two distinct methods for the analysis of PFAS in drinking water. The analyses are conducted on differing instrumentation, with calibrations, extraction solvents and sample preservatives being dissimilar among the two methods. Therefore it is probable and not unexpected to see the methods having slight variations in analytical results: Halawa Shaft Viewing Pool (380-214038-1). (XWB4)

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: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-2

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: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-1

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

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		05/24/26 14:14	05/26/26 21:21	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C6 PFDA	97		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C5 PFHxA	101		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C4 PFHpA	102		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C8 PFOA	101		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C9 PFNA	101		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C7 PFUnA	88		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C2 PFDoA	84		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C4 PFBA	110		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C5 PFPeA	104		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C3 PFBS	105		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C3 PFHxS	103		50 - 200	05/24/26 14:14	05/26/26 21:21	1

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Client Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-1

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	105		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C2-4:2-FTS	131		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C2-6:2-FTS	116		50 - 200	05/24/26 14:14	05/26/26 21:21	1
13C2-8:2-FTS	111		50 - 200	05/24/26 14:14	05/26/26 21:21	1

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorooctanesulfonic acid (PFOS)	3.4		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorohexanoic acid (PFHxA)	2.1		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	122		70 - 130			05/18/26 11:02	05/19/26 08:49	1
13C2 PFHxA	102		70 - 130			05/18/26 11:02	05/19/26 08:49	1
13C2 PFDA	120		70 - 130			05/18/26 11:02	05/19/26 08:49	1
13C3-GenX	97		70 - 130			05/18/26 11:02	05/19/26 08:49	1

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-2

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

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		05/24/26 14:14	05/26/26 21:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1

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Client Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-2

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

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		05/24/26 14:14	05/26/26 21:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		05/24/26 14:14	05/26/26 21:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	82		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C6 PFDA	91		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C5 PFHxA	96		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C4 PFHpA	96		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C8 PFOA	101		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C9 PFNA	99		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C7 PFUnA	87		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C2 PFDoA	89		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C4 PFBA	108		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C5 PFPeA	109		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C3 PFBS	100		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C3 PFHxS	103		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C8 PFOS	102		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C2-4:2-FTS	114		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C2-6:2-FTS	114		50 - 200	05/24/26 14:14	05/26/26 21:30	1
13C2-8:2-FTS	116		50 - 200	05/24/26 14:14	05/26/26 21:30	1

Client Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-2

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		05/18/26 11:02	05/19/26 08:58	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	99		70 - 130			05/18/26 11:02	05/19/26 08:58	1
13C2 PFHxA	99		70 - 130			05/18/26 11:02	05/19/26 08:58	1
13C2 PFDA	101		70 - 130			05/18/26 11:02	05/19/26 08:58	1
13C3-GenX	98		70 - 130			05/18/26 11:02	05/19/26 08:58	1

Action Limit Summary

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-1

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)	3.6		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-2

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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Surrogate Summary

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

Job ID: 380-214038-1
 SDG: PFAS: Halawa Shaft Viewing Pool

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-214027-E-1-A MS	Matrix Spike	102	111	102	105
380-214027-F-1-A MSD	Matrix Spike Duplicate	99	103	99	99
380-214038-1	HALAWA SHAFT VIEWING POOL	122	102	120	97
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	99	99	101	98
LCS 380-227775/20-A	Lab Control Sample	92	99	99	95
MBL 380-227775/18-A	Method Blank	96	95	98	93
MRL 380-227775/19-A	Lab Control Sample	98	99	101	97

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: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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)	PFDoA (50-200)
380-214038-1	HALAWA SHAFT VIEWING POC	89	97	101	102	101	101	88	84
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	82	91	96	96	101	99	87	89
380-215865-C-1-A MS	Matrix Spike	102	104	102	99	100	102	100	103
380-215865-D-1-A MSD	Matrix Spike Duplicate	100	101	99	97	94	100	98	98
LCS 380-229203/22-A	Lab Control Sample	100	103	104	104	102	104	104	99
MBL 380-229203/20-A	Method Blank	89	98	99	100	102	102	99	97
MRL 380-229203/21-A	Lab Control Sample	88	103	109	103	103	102	101	98

		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)
380-214038-1	HALAWA SHAFT VIEWING POC	110	104	105	103	105	131	116	111
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	108	109	100	103	102	114	114	116
380-215865-C-1-A MS	Matrix Spike	115	109	118	112	110	124	118	119
380-215865-D-1-A MSD	Matrix Spike Duplicate	111	111	109	106	109	117	116	119
LCS 380-229203/22-A	Lab Control Sample	112	109	112	111	114	121	116	118
MBL 380-229203/20-A	Method Blank	111	108	109	111	110	121	115	118
MRL 380-229203/21-A	Lab Control Sample	111	105	106	107	114	127	117	122

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 PFDoA
- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- C3PFBS = 13C3 PFBS
- C3PFHS = 13C3 PFHxS
- C8PFOS = 13C8 PFOS
- 42FTS = 13C2-4:2-FTS
- 62FTS = 13C2-6:2-FTS
- 82FTS = 13C2-8:2-FTS

QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-229203/20-A
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 229203

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		05/24/26 14:14	05/26/26 18:19	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C6 PFDA	98		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C5 PFHxA	99		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C4 PFHpA	100		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C8 PFOA	102		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C9 PFNA	102		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C7 PFUnA	99		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C2 PFDoA	97		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C4 PFBA	111		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C5 PFPeA	108		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C3 PFBS	109		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C3 PFHxS	111		50 - 200	05/24/26 14:14	05/26/26 18:19	1

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QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-229203/20-A
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 229203

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	110		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C2-4:2-FTS	121		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C2-6:2-FTS	115		50 - 200	05/24/26 14:14	05/26/26 18:19	1
13C2-8:2-FTS	118		50 - 200	05/24/26 14:14	05/26/26 18:19	1

Lab Sample ID: LCS 380-229203/22-A
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 229203

<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>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	54.3		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	54.0		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	54.7		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	52.5		ng/L		87	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	55.1		ng/L		91	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	55.1		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	56.3		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	55.5		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	56.7		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	53.5		ng/L		89	70 - 130
Perfluorononanoic acid (PFNA)	60.2	57.7		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	55.3		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	54.1		ng/L		90	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	53.6		ng/L		89	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	54.3		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	60.4		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	50.9		ng/L		84	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	56.8		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	55.4		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	51.9		ng/L		86	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	57.4		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	54.6		ng/L		91	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	58.0		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	57.4		ng/L		95	70 - 130

QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-229203/22-A
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 229203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	60.2	56.4		ng/L		94	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	100		50 - 200				
13C6 PFDA	103		50 - 200				
13C5 PFHxA	104		50 - 200				
13C4 PFHpA	104		50 - 200				
13C8 PFOA	102		50 - 200				
13C9 PFNA	104		50 - 200				
13C7 PFUnA	104		50 - 200				
13C2 PFDoA	99		50 - 200				
13C4 PFBA	112		50 - 200				
13C5 PFPeA	109		50 - 200				
13C3 PFBS	112		50 - 200				
13C3 PFHxS	111		50 - 200				
13C8 PFOS	114		50 - 200				
13C2-4:2-FTS	121		50 - 200				
13C2-6:2-FTS	116		50 - 200				
13C2-8:2-FTS	118		50 - 200				

Lab Sample ID: MRL 380-229203/21-A
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 229203

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.75	J	ng/L		87	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.79	J	ng/L		89	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.90	J	ng/L		95	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.97	J	ng/L		98	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.08	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.77	J	ng/L		88	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.04	J	ng/L		102	50 - 150

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QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-229203/21-A
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 229203

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.22	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	1.71	J	ng/L		85	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.33	J	ng/L		116	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.62	J	ng/L		81	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.75	J	ng/L		87	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.88	J	ng/L		93	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.10	J	ng/L		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.94	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	103		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	103		50 - 200
13C8 PFOA	103		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	101		50 - 200
13C2 PFDoA	98		50 - 200
13C4 PFBA	111		50 - 200
13C5 PFPeA	105		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	114		50 - 200
13C2-4:2-FTS	127		50 - 200
13C2-6:2-FTS	117		50 - 200
13C2-8:2-FTS	122		50 - 200

Lab Sample ID: 380-215865-C-1-A MS
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 229203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	111		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	111		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	114		ng/L		94	70 - 130

QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-215865-C-1-A MS
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 229203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		120	113		ng/L		94	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	5.4		120	110		ng/L		86	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	110		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	108		ng/L		90	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.6		120	116		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	2.4		120	112		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	5.1		120	115		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	114		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	117		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	5.4		120	111		ng/L		88	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	112		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	6.5		120	109		ng/L		85	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	116		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	102		ng/L		85	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	111		ng/L		92	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		120	102		ng/L		85	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	113		ng/L		94	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	119		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	120		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	7.4		120	122		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	113		ng/L		93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	111		ng/L		92	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	102		50 - 200
13C4 PFHpA	99		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	100		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	115		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	118		50 - 200
13C3 PFHxS	112		50 - 200
13C8 PFOS	110		50 - 200

QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-215865-C-1-A MS
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 229203

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	124		50 - 200
13C2-6:2-FTS	118		50 - 200
13C2-8:2-FTS	119		50 - 200

Lab Sample ID: 380-215865-D-1-A MSD
Matrix: Water
Analysis Batch: 229560

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 229203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	105		ng/L		87	70 - 130	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	105		ng/L		87	70 - 130	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	110		ng/L		92	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	110		ng/L		91	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	5.4		120	110		ng/L		87	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		120	112		ng/L		93	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	111		ng/L		92	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	2.6		120	114		ng/L		93	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	2.4		120	120		ng/L		98	70 - 130	7	30
Perfluorohexanoic acid (PFHxA)	5.1		120	117		ng/L		93	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		120	116		ng/L		96	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	113		ng/L		92	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	5.4		120	120		ng/L		95	70 - 130	8	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	112		ng/L		93	70 - 130	0	30
Perfluorobutanoic acid (PFBA)	6.5		120	110		ng/L		86	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	110		ng/L		91	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	101		ng/L		84	70 - 130	1	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	107		ng/L		89	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	115		ng/L		96	70 - 130	12	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		120	110		ng/L		91	70 - 130	3	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	116		ng/L		97	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	113		ng/L		94	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	7.4		120	119		ng/L		92	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	111		ng/L		92	70 - 130	1	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	117		ng/L		97	70 - 130	5	30

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QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	99		50 - 200
13C4 PFHpA	97		50 - 200
13C8 PFOA	94		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	98		50 - 200
13C4 PFBA	111		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	119		50 - 200

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020

Lab Sample ID: MBL 380-227775/18-A
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 227775

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		05/18/26 11:02	05/19/26 06:55	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		05/18/26 11:02	05/19/26 06:55	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	96		70 - 130			05/18/26 11:02	05/19/26 06:55	1
13C2 PFHxA	95		70 - 130			05/18/26 11:02	05/19/26 06:55	1
13C2 PFDA	98		70 - 130			05/18/26 11:02	05/19/26 06:55	1

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QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: MBL 380-227775/18-A
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 227775

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	93	Qualifier	70 - 130	05/18/26 11:02	05/19/26 06:55	1

Lab Sample ID: LCS 380-227775/20-A
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227775

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>	
Hexafluoropropylene Oxide	25.2	25.2		ng/L		100	70 - 130	
Dimer Acid (HFPO-DA/GenX)								
Perfluorooctanesulfonic acid (PFOS)	25.2	26.5		ng/L		105	70 - 130	
Perfluoroundecanoic acid (PFUnA)	25.2	26.6		ng/L		106	70 - 130	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.2	25.0		ng/L		100	70 - 130	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.2	24.8		ng/L		99	70 - 130	
Perfluorohexanoic acid (PFHxA)	25.2	25.7		ng/L		102	70 - 130	
Perfluorododecanoic acid (PFDoA)	25.2	25.7		ng/L		102	70 - 130	
Perfluorooctanoic acid (PFOA)	25.2	26.8		ng/L		106	70 - 130	
Perfluorodecanoic acid (PFDA)	25.2	28.1		ng/L		112	70 - 130	
Perfluorohexanesulfonic acid (PFHxS)	25.2	26.3		ng/L		104	70 - 130	
Perfluorobutanesulfonic acid (PFBS)	25.2	24.7		ng/L		98	70 - 130	
Perfluoroheptanoic acid (PFHpA)	25.2	26.1		ng/L		104	70 - 130	
Perfluorononanoic acid (PFNA)	25.2	26.8		ng/L		107	70 - 130	
Perfluorotetradecanoic acid (PFTA)	25.2	25.7		ng/L		102	70 - 130	
Perfluorotridecanoic acid (PFTrDA)	25.2	27.7		ng/L		110	70 - 130	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.2	25.0		ng/L		99	70 - 130	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.2	24.9		ng/L		99	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.2	26.0		ng/L		103	70 - 130	

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	92		70 - 130
13C2 PFHxA	99		70 - 130
13C2 PFDA	99		70 - 130
13C3-GenX	95		70 - 130

QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: MRL 380-227775/19-A
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 227775

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.12	J	ng/L		106	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.29	J	ng/L		114	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	2.02	J	ng/L		100	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	1.77	J	ng/L		88	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	2.13	J	ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.08	J	ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.27	J	ng/L		113	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.28	J	ng/L		113	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.98	J	ng/L		98	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.05	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.23	J	ng/L		111	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	2.12	J	ng/L		105	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	2.19	J	ng/L		109	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.06	J	ng/L		102	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.99	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	2.05	J	ng/L		102	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	98		70 - 130
13C2 PFHxA	99		70 - 130
13C2 PFDA	101		70 - 130
13C3-GenX	97		70 - 130

Lab Sample ID: 380-214027-E-1-A MS
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 227775

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	27.0		ng/L		107	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	28.0		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	27.1		ng/L		108	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	26.7		ng/L		106	70 - 130

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QC Sample Results

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method: EPA 537.1 V2 - EPA 537.1 Ver. 2.0 March 2020 (Continued)

Lab Sample ID: 380-214027-E-1-A MS
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 227775

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec		
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.3		ng/L		109	70 - 130		
Perfluorohexanoic acid (PFHxA)	2.2		25.1	31.5		ng/L		117	70 - 130		
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	27.3		ng/L		109	70 - 130		
Perfluorooctanoic acid (PFOA)	<2.0		25.1	28.6		ng/L		109	70 - 130		
Perfluorodecanoic acid (PFDA)	<2.0		25.1	28.4		ng/L		113	70 - 130		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	28.3		ng/L		106	70 - 130		
Perfluorobutanesulfonic acid (PFBS)	<2.0		25.1	28.5		ng/L		107	70 - 130		
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	29.2		ng/L		113	70 - 130		
Perfluorononanoic acid (PFNA)	<2.0		25.1	28.4		ng/L		113	70 - 130		
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	25.7		ng/L		102	70 - 130		
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.1	27.4		ng/L		109	70 - 130		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	25.7		ng/L		102	70 - 130		
11-Chloroeicosasfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	24.8		ng/L		99	70 - 130		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	28.2		ng/L		112	70 - 130		
MS MS											
Surrogate	%Recovery	Qualifier	Limits								
d5-NEtFOSAA	102		70 - 130								
13C2 PFHxA	111		70 - 130								
13C2 PFDA	102		70 - 130								
13C3-GenX	105		70 - 130								

Lab Sample ID: 380-214027-F-1-A MSD
Matrix: Water
Analysis Batch: 228005

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 227775

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	25.3		ng/L		101	70 - 130	6	30	
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	26.3		ng/L		101	70 - 130	6	30	
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	24.0		ng/L		96	70 - 130	12	30	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	25.5		ng/L		102	70 - 130	5	30	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.0		ng/L		107	70 - 130	1	30	
Perfluorohexanoic acid (PFHxA)	2.2		25.1	27.9		ng/L		102	70 - 130	12	30	
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.3		ng/L		101	70 - 130	8	30	
Perfluorooctanoic acid (PFOA)	<2.0		25.1	26.4		ng/L		100	70 - 130	8	30	
Perfluorodecanoic acid (PFDA)	<2.0		25.1	27.1		ng/L		108	70 - 130	5	30	

Eurofins Pomona

QC Association Summary

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 227775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214038-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-227775/18-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-227775/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-227775/19-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-214027-E-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-214027-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 228005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214038-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	227775
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	227775
MBL 380-227775/18-A	Method Blank	Total/NA	Water	EPA 537.1 V2	227775
LCS 380-227775/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	227775
MRL 380-227775/19-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	227775
380-214027-E-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	227775
380-214027-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	227775

Prep Batch: 229203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214038-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-229203/20-A	Method Blank	Total/NA	Water	533	
LCS 380-229203/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-229203/21-A	Lab Control Sample	Total/NA	Water	533	
380-215865-C-1-A MS	Matrix Spike	Total/NA	Water	533	
380-215865-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 229560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-214038-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	229203
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	229203
MBL 380-229203/20-A	Method Blank	Total/NA	Water	533	229203
LCS 380-229203/22-A	Lab Control Sample	Total/NA	Water	533	229203
MRL 380-229203/21-A	Lab Control Sample	Total/NA	Water	533	229203
380-215865-C-1-A MS	Matrix Spike	Total/NA	Water	533	229203
380-215865-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	229203

Lab Chronicle

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-1

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			229203	N8NE	EA POM	05/24/26 14:14
Total/NA	Analysis	533		1	229560	M7ML	EA POM	05/26/26 21:21
Total/NA	Prep	537.1 DW			227775	L9UA	EA POM	05/18/26 11:02
Total/NA	Analysis	EPA 537.1 V2		1	228005	SZ9R	EA POM	05/19/26 08:49

Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-214038-2

Date Collected: 05/12/26 09:30

Matrix: Water

Date Received: 05/14/26 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			229203	N8NE	EA POM	05/24/26 14:14
Total/NA	Analysis	533		1	229560	M7ML	EA POM	05/26/26 21:30
Total/NA	Prep	537.1 DW			227775	L9UA	EA POM	05/18/26 11:02
Total/NA	Analysis	EPA 537.1 V2		1	228005	SZ9R	EA POM	05/19/26 08:58

Laboratory References:

EA POM = Eurofins 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: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Laboratory: Eurofins Pomona

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-26 *

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

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

Method Summary

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

Job ID: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	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 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: 380-214038-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-214038-1	HALAWA SHAFT VIEWING POOL	Water	05/12/26 09:30	05/14/26 10:16	Hawaii
380-214038-2	FB: HALAWA SHAFT VIEWING POOL	Water	05/12/26 09:30	05/14/26 10:16	Hawaii

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

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-214038-1
SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 214038
List Number: 1
Creator: Ngo, Theodore

List Source: Eurofins Pomona

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").	True	
CIO4 headspace requirement met (>50% for CA, >30% for other states).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

