

ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-226848-1

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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
Maria Lopez, Project Manager
Maria.Lopez@et.eurofinsus.com
(626)386-1145

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Definitions/Glossary

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

Job ID: 380-226848-1
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: 380-226848-1

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Job Narrative 380-226848-1

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 7/23/2026 10:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.5°C.

PFAS

Method 537.1: PFAS results by EPA 537.1 for HALAWA SHAFT VIEWING POOL (380-226848-1) collected on 07/21/26 are a resample for HALAWA SHAFT VIEWING POOL (380-225595-1) collected on 07/14/26. (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: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-2

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: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-1

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9CI-PF3ONS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 16:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C6 PFDA	95		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C5 PFHxA	97		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C4 PFHpA	100		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C8 PFOA	103		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C9 PFNA	105		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C7 PFUnA	96		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C2 PFDoA	95		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C4 PFBA	110		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C5 PFPeA	106		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C3 PFBS	104		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C3 PFHxS	110		50 - 200	07/24/26 16:08	07/25/26 16:45	1

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Client Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-1

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	107		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C2-4:2-FTS	119		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C2-6:2-FTS	101		50 - 200	07/24/26 16:08	07/25/26 16:45	1
13C2-8:2-FTS	86		50 - 200	07/24/26 16:08	07/25/26 16:45	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		07/24/26 11:25	07/25/26 16:15	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 16:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	112		70 - 130	07/24/26 11:25	07/25/26 16:15	1
13C2 PFHxA	115		70 - 130	07/24/26 11:25	07/25/26 16:15	1
13C2 PFDA	110		70 - 130	07/24/26 11:25	07/25/26 16:15	1
13C3-GenX	109		70 - 130	07/24/26 11:25	07/25/26 16:15	1

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-2

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

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		07/24/26 16:08	07/25/26 19:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1

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Client Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-2

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

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		07/24/26 16:08	07/25/26 19:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		07/24/26 16:08	07/25/26 19:56	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C6 PFDA	102		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C5 PFHxA	108		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C4 PFHpA	110		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C8 PFOA	112		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C9 PFNA	113		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C7 PFUnA	103		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C2 PFDoA	99		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C4 PFBA	116		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C5 PFPeA	115		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C3 PFBS	106		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C3 PFHxS	117		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C8 PFOS	111		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C2-4:2-FTS	104		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C2-6:2-FTS	95		50 - 200	07/24/26 16:08	07/25/26 19:56	1
13C2-8:2-FTS	91		50 - 200	07/24/26 16:08	07/25/26 19:56	1

Eurofins Pomona

Client Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-2

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

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		07/24/26 11:25	07/25/26 19:15	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		07/24/26 11:25	07/25/26 19:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	109		70 - 130	07/24/26 11:25	07/25/26 19:15	1
13C2 PFHxA	115		70 - 130	07/24/26 11:25	07/25/26 19:15	1
13C2 PFDA	110		70 - 130	07/24/26 11:25	07/25/26 19:15	1
13C3-GenX	108		70 - 130	07/24/26 11:25	07/25/26 19:15	1

Action Limit Summary

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.1		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		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)	3.5		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: 380-226848-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL Limit	RL	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	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: 380-226848-1
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

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-226848-1	HALAWA SHAFT VIEWING POOL	112	115	110	109
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	113	122	114	114
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	109	120	111	111
380-226848-2	FB HALAWA SHAFT VIEWING POOL	109	115	110	108
LCS 380-242217/23-A	Lab Control Sample	115	121	121	112
MBL 380-242217/21-A	Method Blank	108	116	116	111
MRL 380-242217/22-A	Lab Control Sample	112	120	116	114
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: 380-226848-1
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)	PFDaA (50-200)
380-226848-1	HALAWA SHAFT VIEWING POOL	94	95	97	100	103	105	96	95
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	95	98	96	94	97	102	98	98
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	106	98	98	100	100	105	99	94
380-226848-2	FB HALAWA SHAFT VIEWING POOL	104	102	108	110	112	113	103	99
LCS 380-242292/22-A	Lab Control Sample	104	96	100	105	106	108	97	96
MBL 380-242292/20-A	Method Blank	90	94	94	99	100	103	91	89
MRL 380-242292/21-A	Lab Control Sample	95	92	98	99	101	102	93	89

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)
380-226848-1	HALAWA SHAFT VIEWING POOL	110	106	104	110	107	119	101	86
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	103	100	108	115	112	114	103	89
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	111	107	107	110	106	110	103	89
380-226848-2	FB HALAWA SHAFT VIEWING POOL	116	115	106	117	111	104	95	91
LCS 380-242292/22-A	Lab Control Sample	113	110	106	108	109	106	104	88
MBL 380-242292/20-A	Method Blank	107	108	99	110	110	101	93	85
MRL 380-242292/21-A	Lab Control Sample	110	111	103	106	107	97	93	82

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: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-242292/20-A

Matrix: Water

Analysis Batch: 242404

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 242292

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.99		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.24		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		07/24/26 16:08	07/25/26 16:16	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C6 PFDA	94		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C5 PFHxA	94		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C4 PFHpA	99		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C8 PFOA	100		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C9 PFNA	103		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C7 PFUnA	91		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C2 PFDoA	89		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C4 PFBA	107		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C5 PFPeA	108		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C3 PFBS	99		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C3 PFHxS	110		50 - 200	07/24/26 16:08	07/25/26 16:16	1

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-242292/20-A

Matrix: Water

Analysis Batch: 242404

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 242292

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	110		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C2-4:2-FTS	101		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C2-6:2-FTS	93		50 - 200	07/24/26 16:08	07/25/26 16:16	1
13C2-8:2-FTS	85		50 - 200	07/24/26 16:08	07/25/26 16:16	1

Lab Sample ID: LCS 380-242292/22-A

Matrix: Water

Analysis Batch: 242404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 242292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	59.1	47.9		ng/L		81	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	59.1	48.5		ng/L		82	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	59.1	59.3		ng/L		100	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	59.1	58.8		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	59.1	56.3		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	59.1	64.2		ng/L		109	70 - 130
Perfluorododecanoic acid (PFDaA)	59.1	58.4		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	59.1	57.7		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	59.1	56.4		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	59.1	59.6		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	59.1	57.1		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	59.1	56.7		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	59.1	59.5		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	59.1	56.0		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	59.1	56.1		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	59.1	54.8		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	59.1	57.3		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	59.1	54.2		ng/L		92	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	59.1	61.8		ng/L		105	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	59.1	59.1		ng/L		100	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	59.1	55.3		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	59.1	55.0		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	59.1	59.6		ng/L		101	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	59.1	60.6		ng/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-242292/22-A

Matrix: Water

Analysis Batch: 242404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 242292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	59.1	58.1		ng/L		98	70 - 130
		LCS	LCS				
		%Recovery	Qualifier				Limits
13C3 HFPO-DA		104					50 - 200
13C6 PFDA		96					50 - 200
13C5 PFHxA		100					50 - 200
13C4 PFHpA		105					50 - 200
13C8 PFOA		106					50 - 200
13C9 PFNA		108					50 - 200
13C7 PFUnA		97					50 - 200
13C2 PFDoA		96					50 - 200
13C4 PFBA		113					50 - 200
13C5 PFPeA		110					50 - 200
13C3 PFBS		106					50 - 200
13C3 PFHxS		108					50 - 200
13C8 PFOS		109					50 - 200
13C2-4:2-FTS		106					50 - 200
13C2-6:2-FTS		104					50 - 200
13C2-8:2-FTS		88					50 - 200

Lab Sample ID: MRL 380-242292/21-A

Matrix: Water

Analysis Batch: 242404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 242292

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	1.72	J	ng/L		87	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	1.97	1.86	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	2.19	J	ng/L		111	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	1.97	J	ng/L		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	1.88	J	ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.31	J	ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.14	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.29	J	ng/L		116	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	2.10	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.06	J	ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.19	J	ng/L		111	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.27	J	ng/L		115	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.13	J	ng/L		108	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.35	J	ng/L		119	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-242292/21-A

Matrix: Water

Analysis Batch: 242404

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 242292

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.31	J	ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.40	J	ng/L		122	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.22	J	ng/L		113	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.24	J	ng/L		114	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	1.95	J	ng/L		99	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	1.97	J	ng/L		100	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	2.04	J	ng/L		104	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	2.19	J	ng/L		111	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	2.16	J	ng/L		110	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	2.07	J	ng/L		105	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	95		50 - 200
13C6 PFDA	92		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	99		50 - 200
13C8 PFOA	101		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	93		50 - 200
13C2 PFDoA	89		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	103		50 - 200
13C3 PFHxS	106		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	97		50 - 200
13C2-6:2-FTS	93		50 - 200
13C2-8:2-FTS	82		50 - 200

Lab Sample ID: 380-226848-1 MS

Matrix: Water

Analysis Batch: 242404

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242292

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		118	93.7		ng/L		79	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	96.0		ng/L		81	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	117		ng/L		99	70 - 130

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-226848-1 MS

Matrix: Water

Analysis Batch: 242404

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242292

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		118	118		ng/L		100	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	116		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		118	121		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		118	113		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		118	116		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.1		118	110		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		118	119		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		118	114		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.1		118	115		ng/L		95	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		118	120		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		118	113		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		118	112		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	113		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	120		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	115		ng/L		97	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		118	105		ng/L		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		118	145		ng/L		123	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	119		ng/L		100	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	120		ng/L		101	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		118	116		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	114		ng/L		97	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	110		ng/L		93	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C3 HFPO-DA	95		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	94		50 - 200
13C8 PFOA	97		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	98		50 - 200
13C2 PFDoA	98		50 - 200
13C4 PFBA	103		50 - 200
13C5 PFPeA	100		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	115		50 - 200
13C8 PFOS	112		50 - 200

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-226848-1 MS

Matrix: Water

Analysis Batch: 242404

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242292

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	114		50 - 200
13C2-6:2-FTS	103		50 - 200
13C2-8:2-FTS	89		50 - 200

Lab Sample ID: 380-226848-1 MSD

Matrix: Water

Analysis Batch: 242404

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242292

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 (11CI-PF3OUdS)	<2.0		118	97.4		ng/L		82	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	<2.0		118	104		ng/L		88	70 - 130	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	120		ng/L		101	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	120		ng/L		101	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	115		ng/L		97	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		118	126		ng/L		107	70 - 130	4	30
Perfluorododecanoic acid (PFDaA)	<2.0		118	120		ng/L		101	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	118		ng/L		100	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	3.1		118	113		ng/L		93	70 - 130	3	30
Perfluorohexanoic acid (PFHxA)	<2.0		118	120		ng/L		100	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		118	115		ng/L		97	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	3.1		118	116		ng/L		95	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		118	117		ng/L		98	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	117		ng/L		99	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		118	109		ng/L		92	70 - 130	3	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	119		ng/L		100	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	122		ng/L		103	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	114		ng/L		96	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	112		ng/L		95	70 - 130	7	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		118	129		ng/L		109	70 - 130	12	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	122		ng/L		103	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	122		ng/L		103	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		118	117		ng/L		99	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	116		ng/L		98	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	113		ng/L		96	70 - 130	3	30

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	98		50 - 200
13C4 PFHpA	100		50 - 200
13C8 PFOA	100		50 - 200
13C9 PFNA	105		50 - 200
13C7 PFUnA	99		50 - 200
13C2 PFDoA	94		50 - 200
13C4 PFBA	111		50 - 200
13C5 PFPeA	107		50 - 200
13C3 PFBS	107		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	106		50 - 200
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	103		50 - 200
13C2-8:2-FTS	89		50 - 200

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

Lab Sample ID: MBL 380-242217/21-A
Matrix: Water
Analysis Batch: 242399

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 242217

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.29		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		07/24/26 11:25	07/25/26 15:47	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	108		70 - 130			07/24/26 11:25	07/25/26 15:47	1
13C2 PFHxA	116		70 - 130			07/24/26 11:25	07/25/26 15:47	1
13C2 PFDA	116		70 - 130			07/24/26 11:25	07/25/26 15:47	1

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-242217/21-A

Matrix: Water

Analysis Batch: 242399

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 242217

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	111		70 - 130	07/24/26 11:25	07/25/26 15:47	1

Lab Sample ID: LCS 380-242217/23-A

Matrix: Water

Analysis Batch: 242399

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 242217

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	24.6	25.4		ng/L		103	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	24.6	25.8		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	24.6	28.2		ng/L		115	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	24.6	26.4		ng/L		107	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	24.6	26.6		ng/L		108	70 - 130
Perfluorohexanoic acid (PFHxA)	24.6	26.4		ng/L		107	70 - 130
Perfluorododecanoic acid (PFDoA)	24.6	27.9		ng/L		114	70 - 130
Perfluorooctanoic acid (PFOA)	24.6	27.2		ng/L		110	70 - 130
Perfluorodecanoic acid (PFDA)	24.6	27.8		ng/L		113	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	24.6	27.4		ng/L		111	70 - 130
Perfluorobutanesulfonic acid (PFBS)	24.6	25.6		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	24.6	27.2		ng/L		111	70 - 130
Perfluorononanoic acid (PFNA)	24.6	27.8		ng/L		113	70 - 130
Perfluorotetradecanoic acid (PFTA)	24.6	25.2		ng/L		102	70 - 130
Perfluorotridecanoic acid (PFTrDA)	24.6	28.9		ng/L		118	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	24.6	26.3		ng/L		107	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	24.6	25.7		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	24.6	26.1		ng/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	115		70 - 130
13C2 PFHxA	121		70 - 130
13C2 PFDA	121		70 - 130
13C3-GenX	112		70 - 130

QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-242217/22-A

Matrix: Water

Analysis Batch: 242399

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 242217

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.96	2.02	J	ng/L		103	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.96	2.06	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	2.35	J	ng/L		120	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	2.13	J	ng/L		108	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	2.18	J	ng/L		111	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	2.16	J	ng/L		110	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	2.40	J	ng/L		122	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	2.09	J	ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	2.10	J	ng/L		107	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.04	J	ng/L		104	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	1.97	J	ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	2.14	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	1.96	2.22	J	ng/L		113	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.66	J	ng/L		85	50 - 150
Perfluorotridecanoic acid (PFTrDA)	1.96	2.35	J	ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	2.06	J	ng/L		105	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	2.04	J	ng/L		104	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	2.01	J	ng/L		102	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	112		70 - 130
13C2 PFHxA	120		70 - 130
13C2 PFDA	116		70 - 130
13C3-GenX	114		70 - 130

Lab Sample ID: 380-226848-1 MS

Matrix: Water

Analysis Batch: 242399

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242217

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		24.6	25.8		ng/L		105	70 - 130
Perfluorooctanesulfonic acid (PFOS)	3.2		24.6	29.5		ng/L		107	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	27.0		ng/L		110	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	25.4		ng/L		103	70 - 130

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QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-226848-1 MS

Matrix: Water

Analysis Batch: 242399

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242217

Table 2-122									
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	26.0		ng/L		106	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	28.1		ng/L		108	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	26.2		ng/L		106	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		24.6	27.9		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		24.6	26.7		ng/L		109	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.5		24.6	30.0		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	27.5		ng/L		110	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	27.5		ng/L		109	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		24.6	27.6		ng/L		112	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	21.4		ng/L		87	70 - 130
Perfluorotridecanoic acid (PFTrDA)	<2.0		24.6	28.3		ng/L		115	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	26.3		ng/L		107	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	25.9		ng/L		105	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	26.4		ng/L		107	70 - 130

Lab Sample ID: 380-226848-1 MSD

Matrix: Water

Analysis Batch: 242399

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242217

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		24.6	26.0		ng/L		106	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	3.2		24.6	28.9		ng/L		104	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	26.8		ng/L		109	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	25.0		ng/L		102	70 - 130	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	25.5		ng/L		104	70 - 130	2	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	28.3		ng/L		109	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	26.7		ng/L		108	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	<2.0		24.6	27.7		ng/L		108	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	26.9		ng/L		109	70 - 130	1	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-226848-1 MSD

Matrix: Water

Analysis Batch: 242399

Client Sample ID: HALAWA SHAFT VIEWING POOL

Prep Type: Total/NA

Prep Batch: 242217

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	3.5		24.6	30.5		ng/L		110	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	26.8		ng/L		107	70 - 130	3	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	27.4		ng/L		109	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	27.4		ng/L		111	70 - 130	0	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	22.5		ng/L		92	70 - 130	5	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		24.6	28.1		ng/L		114	70 - 130	1	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.4		ng/L		103	70 - 130	4	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.7		ng/L		100	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	26.7		ng/L		109	70 - 130	1	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	109		70 - 130								
13C2 PFHxA	120		70 - 130								
13C2 PFDA	111		70 - 130								
13C3-GenX	111		70 - 130								

QC Association Summary

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 242217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-226848-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-226848-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-242217/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-242217/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-242217/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	

Prep Batch: 242292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-226848-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-226848-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-242292/20-A	Method Blank	Total/NA	Water	533	
LCS 380-242292/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-242292/21-A	Lab Control Sample	Total/NA	Water	533	
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	

Analysis Batch: 242399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-226848-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	242217
380-226848-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	242217
MBL 380-242217/21-A	Method Blank	Total/NA	Water	EPA 537.1 V2	242217
LCS 380-242217/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	242217
MRL 380-242217/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	242217
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	242217
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	242217

Analysis Batch: 242404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-226848-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	242292
380-226848-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	242292
MBL 380-242292/20-A	Method Blank	Total/NA	Water	533	242292
LCS 380-242292/22-A	Lab Control Sample	Total/NA	Water	533	242292
MRL 380-242292/21-A	Lab Control Sample	Total/NA	Water	533	242292
380-226848-1 MS	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	242292
380-226848-1 MSD	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	242292

Lab Chronicle

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

Job ID: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-1

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			242292	N8NE	EA POM	07/24/26 16:08
Total/NA	Analysis	533		1	242404	M7ML	EA POM	07/25/26 16:45
Total/NA	Prep	537.1 DW			242217	E9PK	EA POM	07/24/26 11:25
Total/NA	Analysis	EPA 537.1 V2		1	242399	M7ML	EA POM	07/25/26 16:15

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-226848-2

Date Collected: 07/21/26 09:30

Matrix: Water

Date Received: 07/23/26 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			242292	N8NE	EA POM	07/24/26 16:08
Total/NA	Analysis	533		1	242404	M7ML	EA POM	07/25/26 19:56
Total/NA	Prep	537.1 DW			242217	E9PK	EA POM	07/24/26 11:25
Total/NA	Analysis	EPA 537.1 V2		1	242399	M7ML	EA POM	07/25/26 19:15

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: 380-226848-1
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 *

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

Method Summary

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

Job ID: 380-226848-1
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: 380-226848-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-226848-1	HALAWA SHAFT VIEWING POOL	Water	07/21/26 09:30	07/23/26 10:30	Hawaii
380-226848-2	FB HALAWA SHAFT VIEWING POOL	Water	07/21/26 09:30	07/23/26 10:30	Hawaii

Environment Testing
America

[illegible]

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-226848-1

SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 226848

List Number: 1

Creator: Del Rosario, Michael

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").	N/A	
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	