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ANALYTICAL REPORT

PREPARED FOR

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

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JOB DESCRIPTION

RED-HILL
Weekly: Halawa Shaft Viewing Pool

JOB NUMBER

380-210131-1

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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)386-1100

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Definitions/Glossary

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

Job ID: 380-210131-1
SDG: Weekly: 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: 380-210131-1

Job ID: 380-210131-1

Eurofins Pomona

Job Narrative 380-210131-1

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 4/23/2026 9:40 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 2.9°C.

PFAS

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Detection Summary

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-1

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)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-2

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: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-1

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C6 PFDA	97		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C5 PFHxA	102		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C4 PFHpA	103		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C8 PFOA	102		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C9 PFNA	105		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C7 PFUnA	97		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C2 PFDoA	99		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C4 PFBA	100		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C5 PFPeA	101		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C3 PFBS	108		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C3 PFHxS	112		50 - 200	04/28/26 08:12	04/29/26 00:14	1

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Client Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-1

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	108		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C2-4:2-FTS	104		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C2-6:2-FTS	94		50 - 200	04/28/26 08:12	04/29/26 00:14	1
13C2-8:2-FTS	88		50 - 200	04/28/26 08:12	04/29/26 00:14	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		04/25/26 09:46	04/27/26 01:37	1
Perfluorooctanesulfonic acid (PFOS)	3.5		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorohexanesulfonic acid (PFHxS)	3.7		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:37	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	106		70 - 130			04/25/26 09:46	04/27/26 01:37	1
13C2 PFHxA	107		70 - 130			04/25/26 09:46	04/27/26 01:37	1
13C2 PFDA	103		70 - 130			04/25/26 09:46	04/27/26 01:37	1
13C3-GenX	103		70 - 130			04/25/26 09:46	04/27/26 01:37	1

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-2

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1

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Client Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-2

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/28/26 08:12	04/29/26 00:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	106		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C6 PFDA	111		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C5 PFHxA	111		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C4 PFHpA	117		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C8 PFOA	107		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C9 PFNA	113		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C7 PFUnA	107		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C2 PFDoA	113		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C4 PFBA	109		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C5 PFPeA	101		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C3 PFBS	108		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C3 PFHxS	115		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C8 PFOS	113		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C2-4:2-FTS	104		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C2-6:2-FTS	94		50 - 200	04/28/26 08:12	04/29/26 00:23	1
13C2-8:2-FTS	88		50 - 200	04/28/26 08:12	04/29/26 00:23	1

Client Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-2

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

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		04/25/26 09:46	04/27/26 01:46	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/25/26 09:46	04/27/26 01:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			04/25/26 09:46	04/27/26 01:46	1
13C2 PFHxA	101		70 - 130			04/25/26 09:46	04/27/26 01:46	1
13C2 PFDA	107		70 - 130			04/25/26 09:46	04/27/26 01:46	1
13C3-GenX	97		70 - 130			04/25/26 09:46	04/27/26 01:46	1

Action Limit Summary

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-1

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)	3.1		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		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)	3.5		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)	3.7		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: 380-210131-2

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: 380-210131-1
 SDG: Weekly: 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)
380-209872-E-1-A MS	Matrix Spike	104	106	107	103
380-209872-F-1-A MSD	Matrix Spike Duplicate	106	111	111	108
380-210131-1	HALAWA SHAFT VIEWING POOL	106	107	103	103
380-210131-2	FB HALAWA SHAFT VIEWING POOL	102	101	107	97
LCS 380-222926/23-A	Lab Control Sample	101	119	115	109
MBL 380-222926/21-A	Method Blank	110	114	111	102
MRL 380-222926/22-A	Lab Control Sample	104	108	102	102

Surrogate Legend

d5NEFOS = d5-NEtFOSAA
 PFHxA = 13C2 PFHxA
 PFDA = 13C2 PFDA
 GenX = 13C3-GenX

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

Isotope Dilution Summary

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

Job ID: 380-210131-1
 SDG: Weekly: 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)
380-210131-1	HALAWA SHAFT VIEWING POC	92	97	102	103	102	105	97	99
380-210131-2	FB HALAWA SHAFT VIEWING POOL	106	111	111	117	107	113	107	113
380-210142-B-1-A MS	Matrix Spike	112	112	112	113	107	111	112	112
380-210142-C-1-A MSD	Matrix Spike Duplicate	118	105	117	112	110	111	108	111
LCS 380-223398/22-A	Lab Control Sample	106	106	106	105	103	106	108	108
MBL 380-223398/20-A	Method Blank	105	105	105	111	108	108	98	102
MRL 380-223398/21-A	Lab Control Sample	92	95	96	102	96	100	96	101

		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)
380-210131-1	HALAWA SHAFT VIEWING POC	100	101	108	112	108	104	94	88
380-210131-2	FB HALAWA SHAFT VIEWING POOL	109	101	108	115	113	104	94	88
380-210142-B-1-A MS	Matrix Spike	106	109	111	112	110	103	96	90
380-210142-C-1-A MSD	Matrix Spike Duplicate	113	111	114	108	111	104	98	87
LCS 380-223398/22-A	Lab Control Sample	106	105	108	108	107	91	91	85
MBL 380-223398/20-A	Method Blank	111	112	117	115	114	110	100	90
MRL 380-223398/21-A	Lab Control Sample	98	91	113	116	112	102	97	89

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: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-223398/20-A
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223398

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		04/28/26 08:12	04/28/26 22:36	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C6 PFDA	105		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C5 PFHxA	105		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C4 PFHpA	111		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C8 PFOA	108		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C9 PFNA	108		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C7 PFUnA	98		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C2 PFDoA	102		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C4 PFBA	111		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C5 PFPeA	112		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C3 PFBS	117		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C3 PFHxS	115		50 - 200	04/28/26 08:12	04/28/26 22:36	1

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QC Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-223398/20-A
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223398

<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	114		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C2-4:2-FTS	110		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C2-6:2-FTS	100		50 - 200	04/28/26 08:12	04/28/26 22:36	1
13C2-8:2-FTS	90		50 - 200	04/28/26 08:12	04/28/26 22:36	1

Lab Sample ID: LCS 380-223398/22-A
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223398

<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)	120	115		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	112		ng/L		93	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	114		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	116		ng/L		96	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	116		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	120	113		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	120	118		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	115		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	116		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	120	112		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	120	117		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	119		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	120	118		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	116		ng/L		96	70 - 130
Perfluorobutanoic acid (PFBA)	120	112		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	123		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	114		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	116		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	112		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	114		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	120	112		ng/L		93	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	119		ng/L		99	70 - 130

QC Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-223398/22-A
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223398

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	116		ng/L		96	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	106		50 - 200				
13C6 PFDA	106		50 - 200				
13C5 PFHxA	106		50 - 200				
13C4 PFHpA	105		50 - 200				
13C8 PFOA	103		50 - 200				
13C9 PFNA	106		50 - 200				
13C7 PFUnA	108		50 - 200				
13C2 PFDoA	108		50 - 200				
13C4 PFBA	106		50 - 200				
13C5 PFPeA	105		50 - 200				
13C3 PFBS	108		50 - 200				
13C3 PFHxS	108		50 - 200				
13C8 PFOS	107		50 - 200				
13C2-4:2-FTS	91		50 - 200				
13C2-6:2-FTS	91		50 - 200				
13C2-8:2-FTS	85		50 - 200				

Lab Sample ID: MRL 380-223398/21-A
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223398

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.99	J	ng/L		99	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.94	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.02	J	ng/L		101	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.16	J	ng/L		108	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.19	J	ng/L		109	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.05	J	ng/L		102	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.05	J	ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.21	J	ng/L		110	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	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: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-223398/21-A
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223398

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.17	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.28	J	ng/L		114	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.23	J	ng/L		111	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.01	J	ng/L		100	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	1.92	J	ng/L		96	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	92		50 - 200
13C6 PFDA	95		50 - 200
13C5 PFHxA	96		50 - 200
13C4 PFHpA	102		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	100		50 - 200
13C7 PFUnA	96		50 - 200
13C2 PFDoA	101		50 - 200
13C4 PFBA	98		50 - 200
13C5 PFPeA	91		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	116		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	102		50 - 200
13C2-6:2-FTS	97		50 - 200
13C2-8:2-FTS	89		50 - 200

Lab Sample ID: 380-210142-B-1-A MS
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 223398

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	116		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	110		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	115		ng/L		95	70 - 130

QC Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-210142-B-1-A MS
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 223398

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		120	121		ng/L		100	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	116		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	115		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	116		ng/L		96	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	118		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	116		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	118		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	116		ng/L		96	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	118		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	120		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	119		ng/L		98	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	120		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	118		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	120		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	118		ng/L		98	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		120	131		ng/L		109	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	116		ng/L		97	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	119		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	118		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	117		ng/L		97	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	118		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	110		ng/L		91	70 - 130

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>MS Limits</i>
13C3 HFPO-DA	112		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	112		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	112		50 - 200
13C2 PFDoA	112		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	111		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: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-210142-B-1-A MS
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 223398

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	103		50 - 200
13C2-6:2-FTS	96		50 - 200
13C2-8:2-FTS	90		50 - 200

Lab Sample ID: 380-210142-C-1-A MSD
Matrix: Water
Analysis Batch: 223567

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 223398

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		121	109		ng/L		90	70 - 130	6	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	106		ng/L		87	70 - 130	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	113		ng/L		94	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	112		ng/L		93	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	108		ng/L		90	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		121	112		ng/L		93	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	116		ng/L		96	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		121	111		ng/L		92	70 - 130	6	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	115		ng/L		95	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		121	111		ng/L		92	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		121	113		ng/L		94	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	114		ng/L		95	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		121	113		ng/L		94	70 - 130	6	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	117		ng/L		97	70 - 130	1	30
Perfluorobutanoic acid (PFBA)	<2.0		121	112		ng/L		91	70 - 130	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	113		ng/L		94	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	111		ng/L		92	70 - 130	8	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	111		ng/L		92	70 - 130	6	30
Nonfluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	109		ng/L		90	70 - 130	19	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	111		ng/L		92	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	109		ng/L		90	70 - 130	9	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	116		ng/L		96	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		121	115		ng/L		96	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	112		ng/L		93	70 - 130	5	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	115		ng/L		95	70 - 130	5	30

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QC Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

<i>Isotope Dilution</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
13C3 HFPO-DA	118		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	117		50 - 200
13C4 PFHpA	112		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	113		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	114		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	111		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	98		50 - 200
13C2-8:2-FTS	87		50 - 200

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

Lab Sample ID: MBL 380-222926/21-A
Matrix: Water
Analysis Batch: 222999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222926

<i>Analyte</i>	<i>MBL</i>	<i>MBL</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>Result</i>	<i>Qualifier</i>						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/25/26 09:46	04/26/26 22:43	1
<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
	<i>%Recovery</i>	<i>Qualifier</i>						
d5-NEtFOSAA	110		70 - 130			04/25/26 09:46	04/26/26 22:43	1
13C2 PFHxA	114		70 - 130			04/25/26 09:46	04/26/26 22:43	1
13C2 PFDA	111		70 - 130			04/25/26 09:46	04/26/26 22:43	1

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QC Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-222926/21-A
Matrix: Water
Analysis Batch: 222999

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222926

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	102	Qualifier	70 - 130	04/25/26 09:46	04/26/26 22:43	1

Lab Sample ID: LCS 380-222926/23-A
Matrix: Water
Analysis Batch: 222999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222926

<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 Dimer Acid (HFPO-DA/GenX)	25.1	22.5		ng/L		90	70 - 130	
Perfluorooctanesulfonic acid (PFOS)	25.1	26.0		ng/L		104	70 - 130	
Perfluoroundecanoic acid (PFUnA)	25.1	25.8		ng/L		103	70 - 130	
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	23.8		ng/L		95	70 - 130	
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	24.2		ng/L		97	70 - 130	
Perfluorohexanoic acid (PFHxA)	25.1	24.8		ng/L		99	70 - 130	
Perfluorododecanoic acid (PFDoA)	25.1	25.5		ng/L		102	70 - 130	
Perfluorooctanoic acid (PFOA)	25.1	25.5		ng/L		102	70 - 130	
Perfluorodecanoic acid (PFDA)	25.1	24.8		ng/L		99	70 - 130	
Perfluorohexanesulfonic acid (PFHxS)	25.1	26.2		ng/L		105	70 - 130	
Perfluorobutanesulfonic acid (PFBS)	25.1	26.2		ng/L		104	70 - 130	
Perfluoroheptanoic acid (PFHpA)	25.1	24.4		ng/L		97	70 - 130	
Perfluorononanoic acid (PFNA)	25.1	25.8		ng/L		103	70 - 130	
Perfluorotetradecanoic acid (PFTA)	25.1	23.1		ng/L		92	70 - 130	
Perfluorotridecanoic acid (PFTrDA)	25.1	25.1		ng/L		100	70 - 130	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	25.1	25.0		ng/L		100	70 - 130	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	23.9		ng/L		95	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	22.7		ng/L		91	70 - 130	

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
d5-NEtFOSAA	101		70 - 130
13C2 PFHxA	119		70 - 130
13C2 PFDA	115		70 - 130
13C3-GenX	109		70 - 130

QC Sample Results

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-222926/22-A
Matrix: Water
Analysis Batch: 222999

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222926

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.93	J	ng/L		96	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.92	J	ng/L		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	1.94	J	ng/L		97	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.06	J	ng/L		103	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	1.94	J	ng/L		97	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.88	J	ng/L		94	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.67	J	ng/L		83	50 - 150
Perfluorotridecanoic acid (PFTTrDA)	2.00	1.92	J	ng/L		96	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.87	J	ng/L		94	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.82	J	ng/L		91	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.90	J	ng/L		95	50 - 150

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

Lab Sample ID: 380-209872-E-1-A MS
Matrix: Water
Analysis Batch: 222999

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 222926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		25.1	24.6		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	27.9		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	24.9		ng/L		99	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	27.1		ng/L		108	70 - 130

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QC Association Summary

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

Job ID: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 222926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210131-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-210131-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-222926/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-222926/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-222926/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-209872-E-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-209872-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 222999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210131-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	222926
380-210131-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	222926
MBL 380-222926/21-A	Method Blank	Total/NA	Water	EPA 537.1 V2	222926
LCS 380-222926/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	222926
MRL 380-222926/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	222926
380-209872-E-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	222926
380-209872-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	222926

Prep Batch: 223398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210131-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-210131-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-223398/20-A	Method Blank	Total/NA	Water	533	
LCS 380-223398/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-223398/21-A	Lab Control Sample	Total/NA	Water	533	
380-210142-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-210142-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 223567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-210131-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	223398
380-210131-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	223398
MBL 380-223398/20-A	Method Blank	Total/NA	Water	533	223398
LCS 380-223398/22-A	Lab Control Sample	Total/NA	Water	533	223398
MRL 380-223398/21-A	Lab Control Sample	Total/NA	Water	533	223398
380-210142-B-1-A MS	Matrix Spike	Total/NA	Water	533	223398
380-210142-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	223398

Lab Chronicle

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

Job ID: 380-210131-1
 SDG: Weekly: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-1

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			223398	XTD8	EA POM	04/28/26 08:12
Total/NA	Analysis	533		1	223567	SZ9R	EA POM	04/29/26 00:14
Total/NA	Prep	537.1 DW			222926	E9PK	EA POM	04/25/26 09:46
Total/NA	Analysis	EPA 537.1 V2		1	222999	SZ9R	EA POM	04/27/26 01:37

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-210131-2

Date Collected: 04/21/26 09:30

Matrix: Water

Date Received: 04/23/26 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			223398	XTD8	EA POM	04/28/26 08:12
Total/NA	Analysis	533		1	223567	SZ9R	EA POM	04/29/26 00:23
Total/NA	Prep	537.1 DW			222926	E9PK	EA POM	04/25/26 09:46
Total/NA	Analysis	EPA 537.1 V2		1	222999	SZ9R	EA POM	04/27/26 01:46

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: 380-210131-1
SDG: Weekly: 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: 380-210131-1
SDG: Weekly: 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: 380-210131-1
SDG: Weekly: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-210131-1	HALAWA SHAFT VIEWING POOL	Water	04/21/26 09:30	04/23/26 09:40	Hawaii
380-210131-2	FB HALAWA SHAFT VIEWING POOL	Water	04/21/26 09:30	04/23/26 09:40	Hawaii

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

Chain of Custody Record



Client Information		Sampler Kai Edison		Lab PM Lopez, Maria		Carrier Tracking No(s)		COC No: 380-210131 COC	
Client Contact Kirk Iwamoto		Phone +1 808 748 5840		E-Mail Maria.Lopez@et.eurofins.com		State of Origin:		Page: Page 1 of 1	
Company City & County of Honolulu				PWSID		Analysis Requested			
Address 630 South Beretania Street, Chemistry Lab		Due Date Requested		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 537 1_DW_PREC - 537 1 Full List 533 - All Analytes		Total Number of Containers		Job #:	
City Honolulu		TAT Requested (days) RUSH						Preservation Codes	
State Zip: HI, 96843		Compliance Project A No						A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G - Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K - EDTA W pH 4-5 L EDA Y Trizma Z - other (specify)	
Phone 808-748-5840 (tel)		PO #: C20525101 exp 05312023						Other NH4 Acetate	
Email kiwamoto@hbws.org		WO #							
Project Name RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill		Project #: 38001111							
Site		SSOW#							
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oi, BT=Tissue, A=Air)	
						Preservation Code		Special Instructions/Note	
HALAWA SHAFT VIEWING POOL		21-Apr-2026		9:30		G Water		3 3	
FB HALAWA SHAFT VIEWING POOL		21-Apr-2026		9:30		G Water		1 1	
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested I, II, III, IV, Other (specify)					Special Instructions/QC Requirements				
Empty Kit Relinquished by		Date		Time		Method of Shipment: FedX 870972893516			
Relinquished by: [Redacted]		Date/Time: 4/22/26 12:00		Company: HBWS		Received by: [Signature] Mark Iwamoto		Date/Time: 4/23/26 940	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact Δ Yes Δ No		Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: (6314) 2.7+0.2-2.9 gel broken					



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-210131-1
SDG Number: Weekly: Halawa Shaft Viewing Pool

Login Number: 210131
List Number: 1
Creator: Gross, Drake

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).	N/A	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

