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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
630 South Beretania Street
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Shaft Viewing Pool

JOB NUMBER

380-196443-1

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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
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Definitions/Glossary

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

Job ID: 380-196443-1
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: 380-196443-1

Job ID: 380-196443-1

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Job Narrative 380-196443-1

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 2/5/2026 10:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.0°C and 3.3°C.

PFAS

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

Detection Summary

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-2

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: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-1

Date Collected: 02/03/26 09:30

Matrix: Drinking Water

Date Received: 02/05/26 10:50

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		02/11/26 06:42	02/11/26 17:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorohexanesulfonic acid (PFHxS)	3.3		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C6 PFDA	89		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C5 PFHxA	96		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C4 PFHpA	98		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C8 PFOA	94		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C9 PFNA	92		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C7 PFUnA	97		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C2 PFDoA	107		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C4 PFBA	95		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C5 PFPeA	98		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C3 PFBS	107		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C3 PFHxS	108		50 - 200	02/11/26 06:42	02/11/26 17:33	1

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Client Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-1

Date Collected: 02/03/26 09:30

Matrix: Drinking Water

Date Received: 02/05/26 10:50

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	99		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C2-4:2-FTS	126		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C2-6:2-FTS	114		50 - 200	02/11/26 06:42	02/11/26 17:33	1
13C2-8:2-FTS	99		50 - 200	02/11/26 06:42	02/11/26 17:33	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		02/09/26 13:49	02/10/26 15:29	1
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
N-ethylperfluorooctanesulfonamide cetic acid (NEtFOSAA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorohexanesulfonic acid (PFHxS)	3.4		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:29	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	105		70 - 130	02/09/26 13:49	02/10/26 15:29	1		
13C2 PFHxA	100		70 - 130	02/09/26 13:49	02/10/26 15:29	1		
13C2 PFDA	101		70 - 130	02/09/26 13:49	02/10/26 15:29	1		
13C3-GenX	95		70 - 130	02/09/26 13:49	02/10/26 15:29	1		

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-2

Date Collected: 02/03/26 09:30

Matrix: Water

Date Received: 02/05/26 10:50

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1

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Client Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-2

Date Collected: 02/03/26 09:30

Matrix: Water

Date Received: 02/05/26 10:50

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		02/11/26 06:42	02/11/26 17:43	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C6 PFDA	105		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C5 PFHxA	110		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C4 PFHpA	112		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C8 PFOA	115		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C9 PFNA	111		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C7 PFUnA	106		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C2 PFDoA	112		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C4 PFBA	106		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C5 PFPeA	107		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C3 PFBS	107		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C3 PFHxS	103		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C8 PFOS	104		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C2-4:2-FTS	114		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C2-6:2-FTS	113		50 - 200	02/11/26 06:42	02/11/26 17:43	1
13C2-8:2-FTS	103		50 - 200	02/11/26 06:42	02/11/26 17:43	1

Client Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-2

Date Collected: 02/03/26 09:30

Matrix: Water

Date Received: 02/05/26 10:50

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		02/09/26 13:49	02/10/26 15:39	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		02/09/26 13:49	02/10/26 15:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	102		70 - 130			02/09/26 13:49	02/10/26 15:39	1
13C2 PFHxA	101		70 - 130			02/09/26 13:49	02/10/26 15:39	1
13C2 PFDA	105		70 - 130			02/09/26 13:49	02/10/26 15:39	1
13C3-GenX	99		70 - 130			02/09/26 13:49	02/10/26 15:39	1

Action Limit Summary

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-1

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)	3.3		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)	3.3		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)	3.4		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: 380-196443-2

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: 380-196443-1
 SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Drinking 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)
380-196443-1	Halawa Shaft Viewing Pool	105	100	101	95
Surrogate Legend					
d5NEFOS = d5-NEtFOSAA					
PFHxA = 13C2 PFHxA					
PFDA = 13C2 PFDA					
GenX = 13C3-GenX					

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)
380-196305-C-1-A MS	Matrix Spike	92	97	96	96
380-196305-D-1-A MSD	Matrix Spike Duplicate	96	105	99	100
380-196443-2	FB: Halawa Shaft Viewing Pool	102	101	105	99
LCS 380-204450/28-A	Lab Control Sample	93	99	100	92
MBL 380-204450/26-A	Method Blank	111	107	110	100
MRL 380-204450/27-A	Lab Control Sample	108	108	107	108
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: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-196443-1	Halawa Shaft Viewing Pool	90	89	96	98	94	92	97	107

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-196443-1	Halawa Shaft Viewing Pool	95	98	107	108	99	126	114	99

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 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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-196085-B-8-A MS	Matrix Spike	109	111	106	102	112	112	116	120
380-196085-C-8-A MSD	Matrix Spike Duplicate	113	116	111	110	111	111	114	118
380-196443-2	FB: Halawa Shaft Viewing Pool	105	105	110	112	115	111	106	112
LCS 380-204955/22-A	Lab Control Sample	117	114	116	115	114	114	117	125
MBL 380-204955/20-A	Method Blank	100	111	119	117	112	114	110	117
MRL 380-204955/21-A	Lab Control Sample	99	112	113	114	114	114	113	119

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-196085-B-8-A MS	Matrix Spike	107	113	104	110	102	110	110	106
380-196085-C-8-A MSD	Matrix Spike Duplicate	108	113	108	109	102	109	102	97
380-196443-2	FB: Halawa Shaft Viewing Pool	106	107	107	103	104	114	113	103
LCS 380-204955/22-A	Lab Control Sample	110	115	112	111	103	108	106	111
MBL 380-204955/20-A	Method Blank	103	112	106	110	102	118	105	117
MRL 380-204955/21-A	Lab Control Sample	108	111	113	113	108	126	114	119

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA

Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-204955/20-A
Matrix: Water
Analysis Batch: 205143

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204955

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		02/11/26 06:42	02/11/26 15:58	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C6 PFDA	111		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C5 PFHxA	119		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C4 PFHpA	117		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C8 PFOA	112		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C9 PFNA	114		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C7 PFUnA	110		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C2 PFDoA	117		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C4 PFBA	103		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C5 PFPeA	112		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C3 PFBS	106		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C3 PFHxS	110		50 - 200	02/11/26 06:42	02/11/26 15:58	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-204955/20-A
Matrix: Water
Analysis Batch: 205143

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204955

<i>Isotope Dilution</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>				
13C8 PFOS	102		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C2-4:2-FTS	118		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C2-6:2-FTS	105		50 - 200	02/11/26 06:42	02/11/26 15:58	1
13C2-8:2-FTS	117		50 - 200	02/11/26 06:42	02/11/26 15:58	1

Lab Sample ID: LCS 380-204955/22-A
Matrix: Water
Analysis Batch: 205143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204955

<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>					
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	123		ng/L		102		70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	122		ng/L		102		70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	109		ng/L		90		70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	113		ng/L		93		70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	112		ng/L		93		70 - 130
Perfluorodecanoic acid (PFDA)	120	110		ng/L		91		70 - 130
Perfluorododecanoic acid (PFDoA)	120	98.6		ng/L		82		70 - 130
Perfluoroheptanoic acid (PFHpA)	120	109		ng/L		90		70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	113		ng/L		93		70 - 130
Perfluorohexanoic acid (PFHxA)	120	106		ng/L		88		70 - 130
Perfluorononanoic acid (PFNA)	120	105		ng/L		87		70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	117		ng/L		97		70 - 130
Perfluorooctanoic acid (PFOA)	120	108		ng/L		89		70 - 130
Perfluoroundecanoic acid (PFUnA)	120	111		ng/L		92		70 - 130
Perfluorobutanoic acid (PFBA)	120	107		ng/L		88		70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	113		ng/L		94		70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	109		ng/L		90		70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	113		ng/L		94		70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	110		ng/L		91		70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	114		ng/L		94		70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93		70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	104		ng/L		86		70 - 130
Perfluoropentanoic acid (PFPeA)	120	105		ng/L		87		70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	117		ng/L		97		70 - 130

QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-204955/22-A

Matrix: Water

Analysis Batch: 205143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 204955

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	110		ng/L		91	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	117		50 - 200				
13C6 PFDA	114		50 - 200				
13C5 PFHxA	116		50 - 200				
13C4 PFHpA	115		50 - 200				
13C8 PFOA	114		50 - 200				
13C9 PFNA	114		50 - 200				
13C7 PFUnA	117		50 - 200				
13C2 PFDoA	125		50 - 200				
13C4 PFBA	110		50 - 200				
13C5 PFPeA	115		50 - 200				
13C3 PFBS	112		50 - 200				
13C3 PFHxS	111		50 - 200				
13C8 PFOS	103		50 - 200				
13C2-4:2-FTS	108		50 - 200				
13C2-6:2-FTS	106		50 - 200				
13C2-8:2-FTS	111		50 - 200				

Lab Sample ID: MRL 380-204955/21-A

Matrix: Water

Analysis Batch: 205143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 204955

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	2.33	J	ng/L		116	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	2.42	J	ng/L		120	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.97	J	ng/L		98	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	2.21	J	ng/L		110	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.07	J	ng/L		103	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	2.12	J	ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	2.19	J	ng/L		109	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.06	J	ng/L		103	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.84	J	ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	2.09	J	ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.30	J	ng/L		115	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	2.14	J	ng/L		107	50 - 150

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QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-204955/21-A
Matrix: Water
Analysis Batch: 205143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204955

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.20	J	ng/L		110	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.30	J	ng/L		115	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	2.72	J	ng/L		135	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	2.36	J	ng/L		118	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	2.09	J	ng/L		104	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.98	J	ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	2.21	J	ng/L		110	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	2.17	J	ng/L		108	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	2.19	J	ng/L		109	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	99		50 - 200
13C6 PFDA	112		50 - 200
13C5 PFHxA	113		50 - 200
13C4 PFHpA	114		50 - 200
13C8 PFOA	114		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	113		50 - 200
13C2 PFDoA	119		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	126		50 - 200
13C2-6:2-FTS	114		50 - 200
13C2-8:2-FTS	119		50 - 200

Lab Sample ID: 380-196085-B-8-A MS
Matrix: Water
Analysis Batch: 205143

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204955

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		121	121		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	114		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	112		ng/L		93	70 - 130

QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-196085-B-8-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 205143

Prep Batch: 204955

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		121	109		ng/L		90	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	115		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		121	110		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		121	103		ng/L		85	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		121	114		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	111		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	3.5		121	114		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		121	110		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	117		ng/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		121	107		ng/L		88	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		121	107		ng/L		88	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		121	112		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	108		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	110		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	110		ng/L		91	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	96.2		ng/L		80	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	120		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	117		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	116		ng/L		96	70 - 130
Perfluoropentanoic acid (PFPeA)	4.9		121	120		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	122		ng/L		101	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	110		ng/L		91	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	111		50 - 200
13C5 PFHxA	106		50 - 200
13C4 PFHpA	102		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	112		50 - 200
13C7 PFUnA	116		50 - 200
13C2 PFDoA	120		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	104		50 - 200
13C3 PFHxS	110		50 - 200
13C8 PFOS	102		50 - 200

QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-196085-B-8-A MS

Matrix: Water

Analysis Batch: 205143

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 204955

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C2-4:2-FTS	110		50 - 200
13C2-6:2-FTS	110		50 - 200
13C2-8:2-FTS	106		50 - 200

Lab Sample ID: 380-196085-C-8-A MSD

Matrix: Water

Analysis Batch: 205143

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 204955

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec	Limits	RPD	RPD	Limit
	Result	Qualifier		Added	Result								
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	117		ng/L		97	70 - 130	3	30		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	117		ng/L		97	70 - 130	2	30		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	112		ng/L		92	70 - 130	1	30		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	109		ng/L		90	70 - 130	0	30		
Perfluorobutanesulfonic acid (PFBS)	<2.0		121	113		ng/L		93	70 - 130	2	30		
Perfluorodecanoic acid (PFDA)	<2.0		121	107		ng/L		88	70 - 130	3	30		
Perfluorododecanoic acid (PFDoA)	<2.0		121	102		ng/L		85	70 - 130	1	30		
Perfluoroheptanoic acid (PFHpA)	<2.0		121	109		ng/L		90	70 - 130	5	30		
Perfluorohexanesulfonic acid (PFHxS)	<2.0		121	110		ng/L		91	70 - 130	1	30		
Perfluorohexanoic acid (PFHxA)	3.5		121	108		ng/L		86	70 - 130	6	30		
Perfluorononanoic acid (PFNA)	<2.0		121	113		ng/L		93	70 - 130	2	30		
Perfluorooctanesulfonic acid (PFOS)	<2.0		121	117		ng/L		97	70 - 130	0	30		
Perfluorooctanoic acid (PFOA)	<2.0		121	115		ng/L		95	70 - 130	7	30		
Perfluoroundecanoic acid (PFUnA)	<2.0		121	108		ng/L		89	70 - 130	1	30		
Perfluorobutanoic acid (PFBA)	<2.0		121	109		ng/L		89	70 - 130	3	30		
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	110		ng/L		91	70 - 130	2	30		
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	106		ng/L		88	70 - 130	3	30		
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	108		ng/L		90	70 - 130	2	30		
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	100		ng/L		83	70 - 130	4	30		
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		121	116		ng/L		96	70 - 130	3	30		
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	110		ng/L		91	70 - 130	6	30		
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	111		ng/L		92	70 - 130	5	30		
Perfluoropentanoic acid (PFPeA)	4.9		121	115		ng/L		91	70 - 130	4	30		
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	118		ng/L		98	70 - 130	3	30		
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	110		ng/L		91	70 - 130	1	30		

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QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	113		50 - 200
13C6 PFDA	116		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	118		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	102		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	102		50 - 200
13C2-8:2-FTS	97		50 - 200

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

Lab Sample ID: MBL 380-204450/26-A
Matrix: Water
Analysis Batch: 204708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204450

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		02/09/26 13:49	02/10/26 13:06	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	111		70 - 130			02/09/26 13:49	02/10/26 13:06	1
13C2 PFHxA	107		70 - 130			02/09/26 13:49	02/10/26 13:06	1
13C2 PFDA	110		70 - 130			02/09/26 13:49	02/10/26 13:06	1

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QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-204450/26-A
Matrix: Water
Analysis Batch: 204708

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 204450

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3-GenX	100		70 - 130	02/09/26 13:49	02/10/26 13:06	1

Lab Sample ID: LCS 380-204450/28-A
Matrix: Water
Analysis Batch: 204708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204450

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	50.0	42.8		ng/L		86	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.0	51.3		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	50.4		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	48.5		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	46.3		ng/L		93	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	47.7		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	51.5		ng/L		103	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	48.3		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	49.2		ng/L		98	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	51.3		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	50.3		ng/L		101	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	49.7		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	50.0	50.3		ng/L		101	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	47.6		ng/L		95	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	52.3		ng/L		105	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	50.4		ng/L		101	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	50.5		ng/L		101	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	46.0		ng/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	93		70 - 130
13C2 PFHxA	99		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	92		70 - 130

QC Sample Results

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-204450/27-A
Matrix: Water
Analysis Batch: 204708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 204450

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	2.00	2.02	J	ng/L		101	50 - 150
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	2.00	1.99	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.22	J	ng/L		111	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.15	J	ng/L		107	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.04	J	ng/L		102	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.19	J	ng/L		110	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.22	J	ng/L		111	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.00	J	ng/L		100	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.91	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.07	J	ng/L		103	50 - 150
		MRL	MRL				
Surrogate	%Recovery	Qualifier	Limits				
d5-NEtFOSAA	108		70 - 130				
13C2 PFHxA	108		70 - 130				
13C2 PFDA	107		70 - 130				
13C3-GenX	108		70 - 130				

Lab Sample ID: 380-196305-C-1-A MS
Matrix: Water
Analysis Batch: 204708

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 204450

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		25.2	24.3		ng/L		97	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.2	25.9		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.2	25.6		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.2	24.3		ng/L		97	70 - 130

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QC Association Summary

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

Job ID: 380-196443-1
 SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 204450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196443-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	537.1 DW	
380-196443-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	537.1 DW	
MBL 380-204450/26-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-204450/28-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-204450/27-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-196305-C-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-196305-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 204708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196443-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	EPA 537.1 V2	204450
380-196443-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	EPA 537.1 V2	204450
MBL 380-204450/26-A	Method Blank	Total/NA	Water	EPA 537.1 V2	204450
LCS 380-204450/28-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	204450
MRL 380-204450/27-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	204450
380-196305-C-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	204450
380-196305-D-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	204450

Prep Batch: 204955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196443-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	533	
380-196443-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	533	
MBL 380-204955/20-A	Method Blank	Total/NA	Water	533	
LCS 380-204955/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-204955/21-A	Lab Control Sample	Total/NA	Water	533	
380-196085-B-8-A MS	Matrix Spike	Total/NA	Water	533	
380-196085-C-8-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 205143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-196443-1	Halawa Shaft Viewing Pool	Total/NA	Drinking Water	533	204955
380-196443-2	FB: Halawa Shaft Viewing Pool	Total/NA	Water	533	204955
MBL 380-204955/20-A	Method Blank	Total/NA	Water	533	204955
LCS 380-204955/22-A	Lab Control Sample	Total/NA	Water	533	204955
MRL 380-204955/21-A	Lab Control Sample	Total/NA	Water	533	204955
380-196085-B-8-A MS	Matrix Spike	Total/NA	Water	533	204955
380-196085-C-8-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	204955

Lab Chronicle

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

Job ID: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-1

Date Collected: 02/03/26 09:30

Matrix: Drinking Water

Date Received: 02/05/26 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			204955	XTD8	EA POM	02/11/26 06:42
Total/NA	Analysis	533		1	205143	M7ML	EA POM	02/11/26 17:33
Total/NA	Prep	537.1 DW			204450	N8NE	EA POM	02/09/26 13:49
Total/NA	Analysis	EPA 537.1 V2		1	204708	SZ9R	EA POM	02/10/26 15:29

Client Sample ID: FB: Halawa Shaft Viewing Pool

Lab Sample ID: 380-196443-2

Date Collected: 02/03/26 09:30

Matrix: Water

Date Received: 02/05/26 10:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			204955	XTD8	EA POM	02/11/26 06:42
Total/NA	Analysis	533		1	205143	M7ML	EA POM	02/11/26 17:43
Total/NA	Prep	537.1 DW			204450	N8NE	EA POM	02/09/26 13:49
Total/NA	Analysis	EPA 537.1 V2		1	204708	SZ9R	EA POM	02/10/26 15:39

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: 380-196443-1
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 *

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

Method Summary

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

Job ID: 380-196443-1
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: 380-196443-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-196443-1	Halawa Shaft Viewing Pool	Drinking Water	02/03/26 09:30	02/05/26 10:50	Hawaii
380-196443-2	FB: Halawa Shaft Viewing Pool	Water	02/03/26 09:30	02/05/26 10:50	Hawaii

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ORIGIN ID:HIKA (808) 748-5840
BWS CHEM LAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERTANI ST
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE: 04FEB26
ACTWGT 34.00 LB
CAD 258050552/INET4535

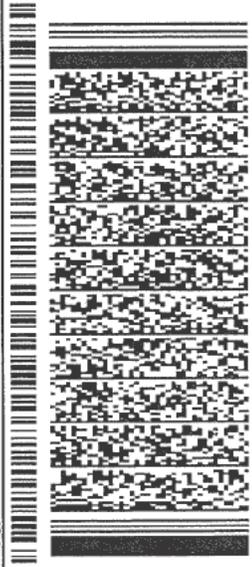
BILL RECIPIENT

TO EUROFINS RECEIVING DEPARTMENT
EUROFINS DRINKING WATER TESTING
941 CORPORATE CENTER DR

58XJ5/6/067/484B

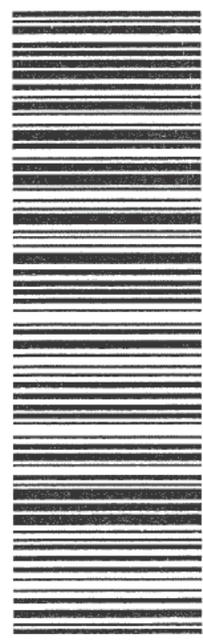
POMONA CA 91768 REF (626) 386-1100

PO: DEPT.



380-196443 COC

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After printing this label
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2 Place label in shipping pouch and affix it to your shipment

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ORIGIN ID-HIKA (808) 748-5840
RWS-CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST
CHEMICAL LABORATORY
HONOLULU HI 96843
UNITED STATES US

TO EUROFINS RECEIVING DEPARTMENT
EUROFINS DRINKING WATER TESTING
941 CORPORATE CENTER DR

BILL RECIPIENT

58KJ5I6067484B

POMONA CA 91768

(626) 386-1100 REF

DEPT.



THU - 05 FEB 10:30A
PRIORITY OVERNIGHT

2 of 3

MPS# 8884 9455 9813

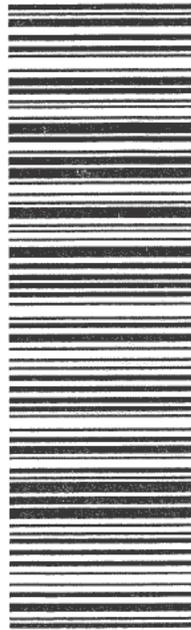
Mstr# 8884 9455 9802

0201

WM ONTA

91768

CA-US ONT



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2/5/26
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10-50

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-196443-1
SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 196443

List Number: 1

Creator: Segura, Ryan

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.	False	
COC is filled out in ink and is legible.	False	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC, logged in per container labels.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
ClO4 headspace requirement met (>50% for CA, >30% for other states).	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	

