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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  
PFAS: Halawa Shaft Viewing Pool

## JOB NUMBER

380-204940-1

# Eurofins Pomona

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Drinking Water and Wastewater West, LLC Project Manager.

## Compliance Statement

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

## Authorization



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# Definitions/Glossary

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

Job ID: 380-204940-1  
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: 380-204940-1

**Job ID: 380-204940-1**

**Eurofins Pomona**

## Job Narrative 380-204940-1

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 3/26/2026 9:37 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 2.2°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: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

## Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-204940-1

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)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA

## Client Sample ID: FB: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-204940-2

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: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-1**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.3</b>		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>3.1</b>		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C6 PFDA	104		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C5 PFHxA	110		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C4 PFHpA	109		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C8 PFOA	110		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C9 PFNA	108		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C7 PFUnA	99		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C2 PFDoA	95		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C4 PFBA	112		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C5 PFPeA	114		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C3 PFBS	109		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C3 PFHxS	110		50 - 200	03/27/26 15:53	03/28/26 16:41	1

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# Client Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-1**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

**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	03/27/26 15:53	03/28/26 16:41	1
13C2-4:2-FTS	145		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C2-6:2-FTS	132		50 - 200	03/27/26 15:53	03/28/26 16:41	1
13C2-8:2-FTS	124		50 - 200	03/27/26 15:53	03/28/26 16:41	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		03/27/26 08:24	03/28/26 15:10	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>3.2</b>		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.6</b>		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:10	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	102		70 - 130	03/27/26 08:24	03/28/26 15:10	1		
13C2 PFHxA	98		70 - 130	03/27/26 08:24	03/28/26 15:10	1		
13C2 PFDA	110		70 - 130	03/27/26 08:24	03/28/26 15:10	1		
13C3-GenX	94		70 - 130	03/27/26 08:24	03/28/26 15:10	1		

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-2**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

**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		03/27/26 15:53	03/28/26 16:50	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1

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# Client Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-2**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

**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		03/27/26 15:53	03/28/26 16:50	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		03/27/26 15:53	03/28/26 16:50	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C3 HFPO-DA	89		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C6 PFDA	107		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C5 PFHxA	112		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C4 PFHpA	109		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C8 PFOA	112		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C9 PFNA	110		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C7 PFUnA	104		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C2 PFDoA	102		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C4 PFBA	112		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C5 PFPeA	115		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C3 PFBS	113		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C3 PFHxS	113		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C8 PFOS	113		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C2-4:2-FTS	151		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C2-6:2-FTS	135		50 - 200			03/27/26 15:53	03/28/26 16:50	1
13C2-8:2-FTS	131		50 - 200			03/27/26 15:53	03/28/26 16:50	1

# Client Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-2**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

**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		03/27/26 08:24	03/28/26 15:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/27/26 08:24	03/28/26 15:19	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
d5-NEtFOSAA	98		70 - 130			03/27/26 08:24	03/28/26 15:19	1
13C2 PFHxA	100		70 - 130			03/27/26 08:24	03/28/26 15:19	1
13C2 PFDA	102		70 - 130			03/27/26 08:24	03/28/26 15:19	1
13C3-GenX	86		70 - 130			03/27/26 08:24	03/28/26 15:19	1

# Action Limit Summary

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-1**

## 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)	3.1		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-2**

## 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: 380-204940-1  
 SDG: PFAS: Halawa Shaft Viewing Pool

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

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-204935-E-1-A MSD	Matrix Spike Duplicate	103	107	118	95
380-204935-F-1-A MS	Matrix Spike	107	111	122	97
380-204940-1	HALAWA SHAFT VIEWING POOL	102	98	110	94
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	98	100	102	86
LCS 380-216154/23-A	Lab Control Sample	95	110	115	100
MBL 380-216154/21-A	Method Blank	104	123	124	108
MRL 380-216154/22-A	Lab Control Sample	100	122	128	100

**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: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-204456-B-1-A MS	Matrix Spike	86	78	91	88	88	82	79	85
380-204456-C-1-A MSD	Matrix Spike Duplicate	105	111	111	107	111	108	106	106
380-204940-1	HALAWA SHAFT VIEWING POOL	104	104	110	109	110	108	99	95
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	89	107	112	109	112	110	104	102
LCS 380-216294/22-A	Lab Control Sample	108	115	116	114	114	113	112	110
MBL 380-216294/20-A	Method Blank	90	107	115	111	115	110	104	100
MRL 380-216294/21-A	Lab Control Sample	88	106	109	108	112	106	103	102

		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)
380-204456-B-1-A MS	Matrix Spike	98	98	106	111	109	143	133	131
380-204456-C-1-A MSD	Matrix Spike Duplicate	112	113	115	115	114	144	134	130
380-204940-1	HALAWA SHAFT VIEWING POOL	112	114	109	110	108	145	132	124
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	112	115	113	113	113	151	135	131
LCS 380-216294/22-A	Lab Control Sample	114	109	112	112	107	136	127	125
MBL 380-216294/20-A	Method Blank	109	111	108	115	112	151	136	132
MRL 380-216294/21-A	Lab Control Sample	108	104	112	108	108	144	133	126

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: MBL 380-216294/20-A**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

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		03/27/26 15:53	03/28/26 13:00	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		03/27/26 15:53	03/28/26 13:00	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C6 PFDA	107		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C5 PFHxA	115		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C4 PFHpA	111		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C8 PFOA	115		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C9 PFNA	110		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C7 PFUnA	104		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C2 PFDoA	100		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C4 PFBA	109		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C5 PFPeA	111		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C3 PFBS	108		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C3 PFHxS	115		50 - 200	03/27/26 15:53	03/28/26 13:00	1

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# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: MBL 380-216294/20-A**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

<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	112		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C2-4:2-FTS	151		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C2-6:2-FTS	136		50 - 200	03/27/26 15:53	03/28/26 13:00	1
13C2-8:2-FTS	132		50 - 200	03/27/26 15:53	03/28/26 13:00	1

**Lab Sample ID: LCS 380-216294/22-A**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

<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	110		ng/L		92	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	117		ng/L		97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	110		ng/L		91	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	109		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	114		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	120	109		ng/L		91	70 - 130
Perfluorododecanoic acid (PFDoA)	120	111		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	112		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	111		ng/L		92	70 - 130
Perfluorohexanoic acid (PFHxA)	120	111		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	120	111		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	117		ng/L		97	70 - 130
Perfluorooctanoic acid (PFOA)	120	112		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	120	110		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	117		ng/L		97	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	105		ng/L		87	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	122		ng/L		102	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		94	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	118		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	120	116		ng/L		96	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	121		ng/L		100	70 - 130

# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: LCS 380-216294/22-A**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	113		ng/L		94	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	108		50 - 200				
13C6 PFDA	115		50 - 200				
13C5 PFHxA	116		50 - 200				
13C4 PFHpA	114		50 - 200				
13C8 PFOA	114		50 - 200				
13C9 PFNA	113		50 - 200				
13C7 PFUnA	112		50 - 200				
13C2 PFDoA	110		50 - 200				
13C4 PFBA	114		50 - 200				
13C5 PFPeA	109		50 - 200				
13C3 PFBS	112		50 - 200				
13C3 PFHxS	112		50 - 200				
13C8 PFOS	107		50 - 200				
13C2-4:2-FTS	136		50 - 200				
13C2-6:2-FTS	127		50 - 200				
13C2-8:2-FTS	125		50 - 200				

**Lab Sample ID: MRL 380-216294/21-A**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.41	J	ng/L		120	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.30	J	ng/L		115	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.17	J	ng/L		108	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.33	J	ng/L		116	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.37	J	ng/L		118	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.44	J	ng/L		122	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.49	J	ng/L		124	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.40	J	ng/L		120	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.34	J	ng/L		117	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.43	J	ng/L		121	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.35	J	ng/L		117	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.41	J	ng/L		120	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.45	J	ng/L		122	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.37	J	ng/L		118	50 - 150

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# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: MRL 380-216294/21-A**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.76	J	ng/L		138	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.62	J	ng/L		131	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.70	J	ng/L		135	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.39	J	ng/L		119	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.37	J	ng/L		118	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.38	J	ng/L		119	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.56	J	ng/L		128	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.38	J	ng/L		119	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.35	J	ng/L		117	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	88		50 - 200
13C6 PFDA	106		50 - 200
13C5 PFHxA	109		50 - 200
13C4 PFHpA	108		50 - 200
13C8 PFOA	112		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	102		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	104		50 - 200
13C3 PFBS	112		50 - 200
13C3 PFHxS	108		50 - 200
13C8 PFOS	108		50 - 200
13C2-4:2-FTS	144		50 - 200
13C2-6:2-FTS	133		50 - 200
13C2-8:2-FTS	126		50 - 200

**Lab Sample ID: 380-204456-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

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		60.2	57.4		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	58.0		ng/L		96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	56.8		ng/L		94	70 - 130

# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: 380-204456-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		60.2	58.3		ng/L		97	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	59		60.2	118		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	59.1		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	59.8		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	6.4		60.2	66.7		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	11		60.2	69.9		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	13		60.2	73.2		ng/L		99	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	59.5		ng/L		97	70 - 130
Perfluorooctanesulfonic acid (PFOS)	13		60.2	71.8		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	16		60.2	74.7		ng/L		98	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	59.8		ng/L		99	70 - 130
Perfluorobutanoic acid (PFBA)	8.1		60.2	67.2		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.4		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	60.7		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	61.8		ng/L		103	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	59.7		ng/L		99	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	64.4		ng/L		107	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	58.5		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	59.3		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	20		60.2	78.5		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.1		ng/L		100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	58.7		ng/L		96	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	86		50 - 200
13C6 PFDA	78		50 - 200
13C5 PFHxA	91		50 - 200
13C4 PFHpA	88		50 - 200
13C8 PFOA	88		50 - 200
13C9 PFNA	82		50 - 200
13C7 PFUnA	79		50 - 200
13C2 PFDoA	85		50 - 200
13C4 PFBA	98		50 - 200
13C5 PFPeA	98		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	111		50 - 200
13C8 PFOS	109		50 - 200

# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: 380-204456-B-1-A MS**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	143		50 - 200
13C2-6:2-FTS	133		50 - 200
13C2-8:2-FTS	131		50 - 200

**Lab Sample ID: 380-204456-C-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 216389**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 216294**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MSD Result</b>	<b>MSD Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	55.9		ng/L		93	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	58.3		ng/L		97	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	55.0		ng/L		91	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	58.2		ng/L		97	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	59		60.2	118		ng/L		98	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	56.4		ng/L		94	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	60.0		ng/L		100	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	6.4		60.2	66.0		ng/L		99	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	11		60.2	69.4		ng/L		97	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	13		60.2	69.7		ng/L		93	70 - 130	5	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	59.0		ng/L		96	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	13		60.2	69.3		ng/L		94	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	16		60.2	73.5		ng/L		96	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	62.4		ng/L		104	70 - 130	4	30
Perfluorobutanoic acid (PFBA)	8.1		60.2	66.7		ng/L		97	70 - 130	1	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.7		ng/L		101	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	63.4		ng/L		105	70 - 130	4	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	63.2		ng/L		105	70 - 130	2	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	56.3		ng/L		94	70 - 130	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	63.0		ng/L		105	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.7		ng/L		99	70 - 130	2	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	60.3		ng/L		100	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	20		60.2	80.6		ng/L		101	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	60.0		ng/L		100	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	58.8		ng/L		96	70 - 130	0	30

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# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: 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	105		50 - 200
13C6 PFDA	111		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	108		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	113		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	115		50 - 200
13C8 PFOS	114		50 - 200
13C2-4:2-FTS	144		50 - 200
13C2-6:2-FTS	134		50 - 200
13C2-8:2-FTS	130		50 - 200

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

**Lab Sample ID: MBL 380-216154/21-A**  
**Matrix: Water**  
**Analysis Batch: 216383**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 216154**

<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		03/27/26 08:24	03/28/26 11:58	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/27/26 08:24	03/28/26 11:58	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	104		70 - 130			03/27/26 08:24	03/28/26 11:58	1
13C2 PFHxA	123		70 - 130			03/27/26 08:24	03/28/26 11:58	1
13C2 PFDA	124		70 - 130			03/27/26 08:24	03/28/26 11:58	1

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# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: MBL 380-216154/21-A**  
**Matrix: Water**  
**Analysis Batch: 216383**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 216154**

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	108	Qualifier	70 - 130	03/27/26 08:24	03/28/26 11:58	1

**Lab Sample ID: LCS 380-216154/23-A**  
**Matrix: Water**  
**Analysis Batch: 216383**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 216154**

<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>
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	50.0	51.7	Qualifier	ng/L	-	103	70 - 130
Perfluorooctanesulfonic acid (PFOS)	50.0	50.5	Qualifier	ng/L	-	101	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	56.0	Qualifier	ng/L	-	112	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	47.5	Qualifier	ng/L	-	95	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	44.9	Qualifier	ng/L	-	90	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	57.1	Qualifier	ng/L	-	114	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	55.5	Qualifier	ng/L	-	111	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	55.9	Qualifier	ng/L	-	112	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	60.9	Qualifier	ng/L	-	122	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	50.5	Qualifier	ng/L	-	101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	50.8	Qualifier	ng/L	-	102	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	59.2	Qualifier	ng/L	-	118	70 - 130
Perfluorononanoic acid (PFNA)	50.0	57.3	Qualifier	ng/L	-	115	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	46.3	Qualifier	ng/L	-	93	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	56.7	Qualifier	ng/L	-	113	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	50.0	52.2	Qualifier	ng/L	-	104	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	49.1	Qualifier	ng/L	-	98	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	53.2	Qualifier	ng/L	-	106	70 - 130

<i>Surrogate</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	95	Qualifier	70 - 130
13C2 PFHxA	110	Qualifier	70 - 130
13C2 PFDA	115	Qualifier	70 - 130
13C3-GenX	100	Qualifier	70 - 130

# QC Sample Results

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

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

**Lab Sample ID: MRL 380-216154/22-A**  
**Matrix: Water**  
**Analysis Batch: 216383**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 216154**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.31	J	ng/L		116	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.15	J	ng/L		107	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.83	J	ng/L		142	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.24	J	ng/L		112	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.52	J	ng/L		126	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.71	J	ng/L		136	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.72	J	ng/L		136	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.74	J	ng/L		137	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.13	J	ng/L		107	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.92	J	ng/L		146	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.90	J	ng/L		145	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	2.39	J	ng/L		119	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.75	J	ng/L		137	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.20	J	ng/L		110	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.16	J	ng/L		108	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.55	J	ng/L		127	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	100		70 - 130
13C2 PFHxA	122		70 - 130
13C2 PFDA	128		70 - 130
13C3-GenX	100		70 - 130

**Lab Sample ID: 380-204935-E-1-A MSD**  
**Matrix: Water**  
**Analysis Batch: 216383**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 216154**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	51.8		ng/L		103	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	2.1		50.2	53.3		ng/L		102	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	57.3		ng/L		114	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.2	50.4		ng/L		100	70 - 130	3	30

Eurofins Pomona





# QC Association Summary

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

Job ID: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

## LCMS

### Prep Batch: 216154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204940-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
MBL 380-216154/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-216154/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-216154/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-204935-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	
380-204935-F-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	

### Prep Batch: 216294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204940-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-216294/20-A	Method Blank	Total/NA	Water	533	
LCS 380-216294/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-216294/21-A	Lab Control Sample	Total/NA	Water	533	
380-204456-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-204456-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 216383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204940-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	216154
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	216154
MBL 380-216154/21-A	Method Blank	Total/NA	Water	EPA 537.1 V2	216154
LCS 380-216154/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	216154
MRL 380-216154/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	216154
380-204935-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	216154
380-204935-F-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	216154

### Analysis Batch: 216389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-204940-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	216294
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	216294
MBL 380-216294/20-A	Method Blank	Total/NA	Water	533	216294
LCS 380-216294/22-A	Lab Control Sample	Total/NA	Water	533	216294
MRL 380-216294/21-A	Lab Control Sample	Total/NA	Water	533	216294
380-204456-B-1-A MS	Matrix Spike	Total/NA	Water	533	216294
380-204456-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	216294

# Lab Chronicle

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

Job ID: 380-204940-1  
 SDG: PFAS: Halawa Shaft Viewing Pool

**Client Sample ID: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-1**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			216294	N8NE	EA POM	03/27/26 15:53
Total/NA	Analysis	533		1	216389	Y5FM	EA POM	03/28/26 16:41
Total/NA	Prep	537.1 DW			216154	E9PK	EA POM	03/27/26 08:24
Total/NA	Analysis	EPA 537.1 V2		1	216383	M7ML	EA POM	03/28/26 15:10

**Client Sample ID: FB: HALAWA SHAFT VIEWING POOL**

**Lab Sample ID: 380-204940-2**

Date Collected: 03/24/26 09:30

Matrix: Water

Date Received: 03/26/26 09:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			216294	N8NE	EA POM	03/27/26 15:53
Total/NA	Analysis	533		1	216389	Y5FM	EA POM	03/28/26 16:50
Total/NA	Prep	537.1 DW			216154	E9PK	EA POM	03/27/26 08:24
Total/NA	Analysis	EPA 537.1 V2		1	216383	M7ML	EA POM	03/28/26 15:19

**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: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

## Laboratory: Eurofins Pomona

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

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

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

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

# Method Summary

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

Job ID: 380-204940-1  
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: 380-204940-1  
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-204940-1	HALAWA SHAFT VIEWING POOL	Water	03/24/26 09:30	03/26/26 09:37	Hawaii
380-204940-2	FB: HALAWA SHAFT VIEWING POOL	Water	03/24/26 09:30	03/26/26 09:37	Hawaii

- 1
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- 15
- 16
- 17

# Chain of Custody Record

<b>Client Information</b>		Sampler: Kai Edison		Lab PM: Lopez, Maria		Carrier Tracking Net(s)		COC No:	
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		Job #:		Preservation Codes:	
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		533 - All Analytes	
City: Honolulu		TAT Requested (days): RUSH		537 1_DW_PREG - 537 1 Full List		537 1_DW_PREG - 537 1 Full List		Total Number of Containers	
State, Zip: HI 96843		Compliance Project: Δ No		Matrix (W=Water, S=solid, O=soil, G=grab)		Preservation Code:		Special Instructions/Note:	
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023		Sample Type (C=Comp, G=grab)		Sample Time		Sample Date	
Email: kiwamoto@hbws.org		WO #: 38001111		Sample Date		Sample Time		Sample Date	
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		SSOW#:		Sample Date		Sample Time		Sample Date	
Site:		24-Mar-2026		9:30		G		Water	
Sample Identification		HALAWA SHAFT VIEWING POOL		24-Mar-2026		9:30		G	
Sample Date		24-Mar-2026		9:30		G		Water	
Sample Time		24-Mar-2026		9:30		G		Water	
Sample Type (C=Comp, G=grab)		24-Mar-2026		9:30		G		Water	
Matrix (W=Water, S=solid, O=soil, G=grab)		24-Mar-2026		9:30		G		Water	
Sample Date		24-Mar-2026		9:30		G		Water	
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Sample Date		24-Mar-2026		9:30		G		Water	
Sample Time		24-Mar-2026		9:30		G		Water	
Sample Date		24-Mar-2026		9:30		G		Water	
Sample Time		24-Mar-2026		9:30		G		Water	
Sample Date		24-Mar-202							

# Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-204940-1  
SDG Number: PFAS: Halawa Shaft Viewing Pool

**Login Number: 204940**

**List Number: 1**

**Creator: Del Rosario, Michael**

**List Source: Eurofins Pomona**

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

