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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Erwin Kawata  
City & County of Honolulu  
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Public Service Bldg. Room 310  
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## JOB DESCRIPTION

RED-HILL  
PFAS: Hawala Shaft Viewing Pool

## JOB NUMBER

380-206050-1

# 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: 380-206050-1  
SDG: PFAS: Hawala 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: 380-206050-1

**Job ID: 380-206050-1**

**Eurofins Pomona**

## Job Narrative 380-206050-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

### Receipt

The samples were received on 4/2/2026 9:57 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 4.6°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: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

## Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-206050-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.3		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5		2.0	ng/L	1		EPA 537.1 V2	Total/NA

## Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

Lab Sample ID: 380-206050-2

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: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-206050-1**

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.5</b>		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>3.1</b>		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	103		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C6 PFDA	100		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C5 PFHxA	110		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C4 PFHpA	106		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C8 PFOA	102		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C9 PFNA	103		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C7 PFUnA	103		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C2 PFDoA	106		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C4 PFBA	107		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C5 PFPeA	117		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C3 PFBS	118		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C3 PFHxS	107		50 - 200	04/04/26 14:16	04/05/26 16:46	1

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# Client Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-206050-1**

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	118		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C2-4:2-FTS	125		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C2-6:2-FTS	125		50 - 200	04/04/26 14:16	04/05/26 16:46	1
13C2-8:2-FTS	117		50 - 200	04/04/26 14:16	04/05/26 16:46	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>3.3</b>		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.5</b>		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Perfluorotridecanoic acid (PFTTrDA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:26	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	106		70 - 130	04/04/26 08:05	04/05/26 19:26	1		
13C2 PFHxA	105		70 - 130	04/04/26 08:05	04/05/26 19:26	1		
13C2 PFDA	108		70 - 130	04/04/26 08:05	04/05/26 19:26	1		
13C3-GenX	107		70 - 130	04/04/26 08:05	04/05/26 19:26	1		

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

**Lab Sample ID: 380-206050-2**

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1

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# Client Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-206050-2**

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/04/26 14:16	04/05/26 16:56	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C6 PFDA	108		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C5 PFHxA	113		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C4 PFHpA	117		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C8 PFOA	112		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C9 PFNA	114		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C7 PFUnA	115		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C2 PFDoA	107		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C4 PFBA	111		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C5 PFPeA	116		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C3 PFBS	111		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C3 PFHxS	111		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C8 PFOS	109		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C2-4:2-FTS	108		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C2-6:2-FTS	114		50 - 200	04/04/26 14:16	04/05/26 16:56	1
13C2-8:2-FTS	107		50 - 200	04/04/26 14:16	04/05/26 16:56	1

# Client Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-206050-2**

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/04/26 08:05	04/05/26 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97		70 - 130	04/04/26 08:05	04/05/26 19:36	1
13C2 PFHxA	96		70 - 130	04/04/26 08:05	04/05/26 19:36	1
13C2 PFDA	105		70 - 130	04/04/26 08:05	04/05/26 19:36	1
13C3-GenX	90		70 - 130	04/04/26 08:05	04/05/26 19:36	1

## Action Limit Summary

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-206050-1**

### 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)	3.5		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)	3.3		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)	3.5		ng/L	10		2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10		2.0	EPA 537.1 V2	Total/NA

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

**Lab Sample ID: 380-206050-2**

### 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: 380-206050-1  
 SDG: PFAS: Hawala 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)
380-205991-B-8-A MS	Matrix Spike	107	95	108	110
380-205991-C-8-A MSD	Matrix Spike Duplicate	103	98	115	113
380-206050-1	HALAWA SHAFT VIEWING POOL	106	105	108	107
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	97	96	105	90
LCS 380-217839/23-A	Lab Control Sample	90	89	104	100
MBL 380-217839/21-A	Method Blank	96	98	109	90
MRL 380-217839/22-A	Lab Control Sample	95	106	105	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: 380-206050-1  
SDG: PFAS: Hawala 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)	PFD <sub>o</sub> A (50-200)
380-205743-A-1-B MS	Matrix Spike	109	110	116	114	111	115	116	117
380-205743-A-1-C MSD	Matrix Spike Duplicate	111	114	111	115	116	117	114	116
380-206050-1	HALAWA SHAFT VIEWING POOL	103	100	110	106	102	103	103	106
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	105	108	113	117	112	114	115	107
LCS 380-217851/22-A	Lab Control Sample	113	115	111	113	116	117	118	118
MBL 380-217851/20-A	Method Blank	106	106	115	111	112	110	109	112
MRL 380-217851/21-A	Lab Control Sample	108	105	111	111	117	115	118	112

		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)
380-205743-A-1-B MS	Matrix Spike	110	120	115	113	117	117	126	120
380-205743-A-1-C MSD	Matrix Spike Duplicate	114	128	121	113	118	126	128	119
380-206050-1	HALAWA SHAFT VIEWING POOL	107	117	118	107	118	125	125	117
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	111	116	111	111	109	108	114	107
LCS 380-217851/22-A	Lab Control Sample	109	110	115	117	114	113	119	115
MBL 380-217851/20-A	Method Blank	112	119	119	109	113	120	135	124
MRL 380-217851/21-A	Lab Control Sample	117	117	115	111	116	121	126	115

**Surrogate Legend**

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFD<sub>o</sub>A = 13C2 PFD<sub>o</sub>A
- 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: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: MBL 380-217851/20-A**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		04/04/26 14:16	04/05/26 13:38	1

Isotope Dilution	MBL	MBL	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 HFPO-DA	106		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C6 PFDA	106		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C5 PFHxA	115		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C4 PFHpA	111		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C8 PFOA	112		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C9 PFNA	110		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C7 PFUnA	109		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C2 PFDoA	112		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C4 PFBA	112		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C5 PFPeA	119		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C3 PFBS	119		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C3 PFHxS	109		50 - 200	04/04/26 14:16	04/05/26 13:38	1

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# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: MBL 380-217851/20-A**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	113		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C2-4:2-FTS	120		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C2-6:2-FTS	135		50 - 200	04/04/26 14:16	04/05/26 13:38	1
13C2-8:2-FTS	124		50 - 200	04/04/26 14:16	04/05/26 13:38	1

**Lab Sample ID: LCS 380-217851/22-A**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	110		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	112		ng/L		94	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	112		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	112		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	120	110		ng/L		92	70 - 130
Perfluorododecanoic acid (PFDoA)	120	113		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	112		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	108		ng/L		90	70 - 130
Perfluorohexanoic acid (PFHxA)	120	116		ng/L		96	70 - 130
Perfluorononanoic acid (PFNA)	120	107		ng/L		89	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	111		ng/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	120	107		ng/L		89	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	120	108		ng/L		90	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	111		ng/L		92	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	109		ng/L		91	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	111		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	116		ng/L		97	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	114		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	120	113		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	112		ng/L		94	70 - 130

# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: LCS 380-217851/22-A**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Perfluoropentanesulfonic acid (PFPeS)	120	107		ng/L		89	70 - 130	
<b>LCS LCS</b>								
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>						<b>Limits</b>
13C3 HFPO-DA	113							50 - 200
13C6 PFDA	115							50 - 200
13C5 PFHxA	111							50 - 200
13C4 PFHpA	113							50 - 200
13C8 PFOA	116							50 - 200
13C9 PFNA	117							50 - 200
13C7 PFUnA	118							50 - 200
13C2 PFDoA	118							50 - 200
13C4 PFBA	109							50 - 200
13C5 PFPeA	110							50 - 200
13C3 PFBS	115							50 - 200
13C3 PFHxS	117							50 - 200
13C8 PFOS	114							50 - 200
13C2-4:2-FTS	113							50 - 200
13C2-6:2-FTS	119							50 - 200
13C2-8:2-FTS	115							50 - 200

**Lab Sample ID: MRL 380-217851/21-A**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.10	J	ng/L		105	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.96	J	ng/L		98	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.09	J	ng/L		104	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	1.99	J	ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.26	J	ng/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.14	J	ng/L		107	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.01	J	ng/L		100	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.10	J	ng/L		105	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.02	J	ng/L		101	50 - 150

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# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: MRL 380-217851/21-A**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.23	J	ng/L		112	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.23	J	ng/L		111	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.34	J	ng/L		117	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.00	J	ng/L		100	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	1.96	J	ng/L		98	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.28	J	ng/L		114	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	108		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	111		50 - 200
13C8 PFOA	117		50 - 200
13C9 PFNA	115		50 - 200
13C7 PFUnA	118		50 - 200
13C2 PFDoA	112		50 - 200
13C4 PFBA	117		50 - 200
13C5 PFPeA	117		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	111		50 - 200
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	121		50 - 200
13C2-6:2-FTS	126		50 - 200
13C2-8:2-FTS	115		50 - 200

**Lab Sample ID: 380-205743-A-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

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	54.9		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	54.2		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	55.2		ng/L		92	70 - 130

# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-205743-A-1-B MS**

**Client Sample ID: Matrix Spike**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 217882**

**Prep Batch: 217851**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		60.2	58.7		ng/L		98	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	56.7		ng/L		94	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.2	58.0		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	55.7		ng/L		92	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	57.0		ng/L		95	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	57.9		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	55.2		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.2	56.4		ng/L		94	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.3		60.2	57.8		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.2	56.9		ng/L		94	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	55.9		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.2	58.1		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	57.7		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	59.3		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	57.5		ng/L		95	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	52.7		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	57.5		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	59.5		ng/L		99	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	57.3		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	57.9		ng/L		95	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	55.6		ng/L		92	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	56.6		ng/L		94	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	109		50 - 200
13C6 PFDA	110		50 - 200
13C5 PFHxA	116		50 - 200
13C4 PFHpA	114		50 - 200
13C8 PFOA	111		50 - 200
13C9 PFNA	115		50 - 200
13C7 PFUnA	116		50 - 200
13C2 PFDoA	117		50 - 200
13C4 PFBA	110		50 - 200
13C5 PFPeA	120		50 - 200
13C3 PFBS	115		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	117		50 - 200

# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: 380-205743-A-1-B MS**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	126		50 - 200
13C2-8:2-FTS	120		50 - 200

**Lab Sample ID: 380-205743-A-1-C MSD**  
**Matrix: Water**  
**Analysis Batch: 217882**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 217851**

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	56.3		ng/L		93	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	56.8		ng/L		94	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	56.9		ng/L		95	70 - 130	3	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	59.7		ng/L		99	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	55.2		ng/L		92	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	55.2		ng/L		92	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	55.8		ng/L		93	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	57.8		ng/L		96	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	57.8		ng/L		95	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	58.5		ng/L		97	70 - 130	6	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	55.2		ng/L		92	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	2.3		60.2	58.1		ng/L		93	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	56.5		ng/L		94	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	58.8		ng/L		98	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	59.2		ng/L		98	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	60.4		ng/L		100	70 - 130	5	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	59.4		ng/L		99	70 - 130	0	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	58.3		ng/L		97	70 - 130	1	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	53.6		ng/L		89	70 - 130	2	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		60.2	57.4		ng/L		95	70 - 130	0	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	60.2		ng/L		100	70 - 130	1	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	56.1		ng/L		93	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	59.4		ng/L		98	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	56.7		ng/L		94	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	58.4		ng/L		97	70 - 130	3	30

# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	111		50 - 200
13C6 PFDA	114		50 - 200
13C5 PFHxA	111		50 - 200
13C4 PFHpA	115		50 - 200
13C8 PFOA	116		50 - 200
13C9 PFNA	117		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	116		50 - 200
13C4 PFBA	114		50 - 200
13C5 PFPeA	128		50 - 200
13C3 PFBS	121		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	118		50 - 200
13C2-4:2-FTS	126		50 - 200
13C2-6:2-FTS	128		50 - 200
13C2-8:2-FTS	119		50 - 200

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

**Lab Sample ID: MBL 380-217839/21-A**  
**Matrix: Water**  
**Analysis Batch: 217890**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 217839**

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		04/04/26 08:05	04/05/26 16:34	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/04/26 08:05	04/05/26 16:34	1
Surrogate	MBL MBL		Limits			Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier						
d5-NEtFOSAA	96		70 - 130			04/04/26 08:05	04/05/26 16:34	1
13C2 PFHxA	98		70 - 130			04/04/26 08:05	04/05/26 16:34	1
13C2 PFDA	109		70 - 130			04/04/26 08:05	04/05/26 16:34	1

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# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: MBL 380-217839/21-A**  
**Matrix: Water**  
**Analysis Batch: 217890**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 217839**

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	90	Qualifier	70 - 130	04/04/26 08:05	04/05/26 16:34	1

**Lab Sample ID: LCS 380-217839/23-A**  
**Matrix: Water**  
**Analysis Batch: 217890**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 217839**

<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>Analyte</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Hexafluoropropylene Oxide	50.0	50.3		ng/L		101	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.0	50.0		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.0	52.5		ng/L		105	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.0	48.5		ng/L		97	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.0	48.1		ng/L		96	70 - 130
Perfluorohexanoic acid (PFHxA)	50.0	50.8		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	50.0	52.0		ng/L		104	70 - 130
Perfluorooctanoic acid (PFOA)	50.0	51.9		ng/L		104	70 - 130
Perfluorodecanoic acid (PFDA)	50.0	53.1		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.0	53.3		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.0	54.8		ng/L		110	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.0	49.9		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	50.0	50.0		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.0	46.7		ng/L		93	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.0	52.2		ng/L		104	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.0	51.6		ng/L		103	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.0	51.5		ng/L		103	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.0	50.4		ng/L		101	70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	90		70 - 130
13C2 PFHxA	89		70 - 130
13C2 PFDA	104		70 - 130
13C3-GenX	100		70 - 130

# QC Sample Results

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

Job ID: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

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

**Lab Sample ID: MRL 380-217839/22-A**  
**Matrix: Water**  
**Analysis Batch: 217890**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 217839**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.09	J	ng/L		104	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.04	J	ng/L		102	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.21	J	ng/L		111	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.83	J	ng/L		91	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.02	J	ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.24	J	ng/L		112	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.26	J	ng/L		113	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.03	J	ng/L		101	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.02	J	ng/L		101	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.18	J	ng/L		109	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.23	J	ng/L		111	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.84	J	ng/L		92	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.00	2.13	J	ng/L		107	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.09	J	ng/L		105	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.94	J	ng/L		97	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.09	J	ng/L		104	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	106		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	100		70 - 130

**Lab Sample ID: 380-205991-B-8-A MS**  
**Matrix: Water**  
**Analysis Batch: 217890**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 217839**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.3		50.3	58.3		ng/L		111	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.3	52.9		ng/L		105	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.3	54.2		ng/L		108	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.3	52.7		ng/L		105	70 - 130

Eurofins Pomona





# QC Association Summary

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

Job ID: 380-206050-1  
 SDG: PFAS: Hawala Shaft Viewing Pool

## LCMS

### Prep Batch: 217839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206050-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	537.1 DW	
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	537.1 DW	
MBL 380-217839/21-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-217839/23-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-217839/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-205991-B-8-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-205991-C-8-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

### Prep Batch: 217851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206050-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	533	
MBL 380-217851/20-A	Method Blank	Total/NA	Water	533	
LCS 380-217851/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-217851/21-A	Lab Control Sample	Total/NA	Water	533	
380-205743-A-1-B MS	Matrix Spike	Total/NA	Water	533	
380-205743-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	

### Analysis Batch: 217882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206050-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	217851
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	533	217851
MBL 380-217851/20-A	Method Blank	Total/NA	Water	533	217851
LCS 380-217851/22-A	Lab Control Sample	Total/NA	Water	533	217851
MRL 380-217851/21-A	Lab Control Sample	Total/NA	Water	533	217851
380-205743-A-1-B MS	Matrix Spike	Total/NA	Water	533	217851
380-205743-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	533	217851

### Analysis Batch: 217890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206050-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	EPA 537.1 V2	217839
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	Total/NA	Water	EPA 537.1 V2	217839
MBL 380-217839/21-A	Method Blank	Total/NA	Water	EPA 537.1 V2	217839
LCS 380-217839/23-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	217839
MRL 380-217839/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	217839
380-205991-B-8-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	217839
380-205991-C-8-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	217839

# Lab Chronicle

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

Job ID: 380-206050-1  
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## Client Sample ID: HALAWA SHAFT VIEWING POOL

## Lab Sample ID: 380-206050-1

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			217851	N8NE	EA POM	04/04/26 14:16
Total/NA	Analysis	533		1	217882	M7ML	EA POM	04/05/26 16:46
Total/NA	Prep	537.1 DW			217839	E9PK	EA POM	04/04/26 08:05
Total/NA	Analysis	EPA 537.1 V2		1	217890	SZ9R	EA POM	04/05/26 19:26

## Client Sample ID: HALAWA SHAFT VIEWING POOL Blank

## Lab Sample ID: 380-206050-2

Date Collected: 03/31/26 09:30

Matrix: Water

Date Received: 04/02/26 09:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			217851	N8NE	EA POM	04/04/26 14:16
Total/NA	Analysis	533		1	217882	M7ML	EA POM	04/05/26 16:56
Total/NA	Prep	537.1 DW			217839	E9PK	EA POM	04/04/26 08:05
Total/NA	Analysis	EPA 537.1 V2		1	217890	SZ9R	EA POM	04/05/26 19:36

**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: 380-206050-1  
SDG: PFAS: Hawala 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: 380-206050-1  
SDG: PFAS: Hawala 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: 380-206050-1  
SDG: PFAS: Hawala Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-206050-1	HALAWA SHAFT VIEWING POOL	Water	03/31/26 09:30	04/02/26 09:57	Hawaii
380-206050-2	HALAWA SHAFT VIEWING POOL Blank	Water	03/31/26 09:30	04/02/26 09:57	Hawaii

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



## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-206050-1  
SDG Number: PFAS: Hawala Shaft Viewing Pool

**Login Number: 206050**

**List Number: 1**

**Creator: Ngo, Theodore**

**List Source: Eurofins Pomona**

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

