

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

380-236913-1

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Job Notes

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

Compliance Statement

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

Authorization



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

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Definitions/Glossary

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

Job ID: 380-236913-1
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: 380-236913-1

Job ID: 380-236913-1

Eurofins Pomona

Job Narrative 380-236913-1

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 9/17/2026 9:35 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 3.1°C.

PFAS

Method EPA 537.1 V2: The following QC issues in preparation batch 380-253520 and analytical batch 380-253563 were observed: Surrogate 13C2 PFDA recovery for 380-236913-B-1-A MS (380-3626144) was above method limits (high bias). Insufficient volume for re-extraction / re-analysis of sample. Affected target analytes flagged due to surrogate failure. PFAS results by 537.1 for Halawa Shaft Viewing Pool (380-236913-1) collected on 09/15/26 are not acceptable for compliance reporting and excluded due to QC failures of surrogates not meeting the method limits. The sample is collected weekly thus follow up sample was collected on 09/22/26 under job # 380-238142-1. Analysis by EPA 537.1 is currently in progress. (XWB4)

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

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Detection Summary

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-1

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

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-2

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: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-1

Date Collected: 09/15/26 09:30

Matrix: Water

Date Received: 09/17/26 09:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorohexanesulfonic acid (PFHxS)	3.1		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorooctanesulfonic acid (PFOS)	3.2		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	105		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C6 PFDA	109		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C5 PFHxA	109		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C4 PFHpA	109		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C8 PFOA	114		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C9 PFNA	114		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C7 PFUnA	110		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C2 PFDoA	105		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C4 PFBA	113		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C5 PFPeA	111		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C3 PFBS	111		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C3 PFHxS	109		50 - 200	09/18/26 03:00	09/18/26 17:27	1

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Client Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-1

Date Collected: 09/15/26 09:30

Matrix: Water

Date Received: 09/17/26 09:35

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	110		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C2-4:2-FTS	120		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C2-6:2-FTS	117		50 - 200	09/18/26 03:00	09/18/26 17:27	1
13C2-8:2-FTS	116		50 - 200	09/18/26 03:00	09/18/26 17:27	1

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-2

Date Collected: 09/15/26 09:30

Matrix: Water

Date Received: 09/17/26 09:35

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/18/26 03:00	09/18/26 17:36	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		50 - 200			09/18/26 03:00	09/18/26 17:36	1
13C6 PFDA	100		50 - 200			09/18/26 03:00	09/18/26 17:36	1
13C5 PFHxA	102		50 - 200			09/18/26 03:00	09/18/26 17:36	1

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Client Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-2

Date Collected: 09/15/26 09:30

Matrix: Water

Date Received: 09/17/26 09:35

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

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFHpA	101		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C8 PFOA	105		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C9 PFNA	108		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C7 PFUnA	105		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C2 PFDoA	99		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C4 PFBA	109		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C5 PFPeA	102		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C3 PFBS	106		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C3 PFHxS	106		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C8 PFOS	108		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C2-4:2-FTS	110		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C2-6:2-FTS	113		50 - 200	09/18/26 03:00	09/18/26 17:36	1
13C2-8:2-FTS	116		50 - 200	09/18/26 03:00	09/18/26 17:36	1

Action Limit Summary

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-1

Compliance Check

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

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

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-2

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-236913-1
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)
380-236913-1	HALAWA SHAFT VIEWING POOL	114	104	126	108
380-236913-1 MS	HALAWA SHAFT VIEWING POOL	116	107	134 S1+	116
380-236913-1 MSD	HALAWA SHAFT VIEWING POOL	107	101	117	110
380-236913-2	FB HALAWA SHAFT VIEWING POOL	97	95	116	95
LCS 380-253520/24-A	Lab Control Sample	102	99	120	105
MBL 380-253520/22-A	Method Blank	106	103	117	105
MRL 380-253520/23-A	Lab Control Sample	103	101	111	103
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: 380-236913-1
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)
380-236896-B-1-A MS	Matrix Spike	102	105	103	102	106	106	106	103
380-236896-C-1-A MSD	Matrix Spike Duplicate	104	104	104	101	107	107	103	104
380-236913-1	HALAWA SHAFT VIEWING POOL	105	109	109	109	114	114	110	105
380-236913-2	FB HALAWA SHAFT VIEWING POOL	94	100	102	101	105	108	105	99
LCS 380-253322/22-A	Lab Control Sample	105	103	104	101	106	109	107	104
MBL 380-253322/20-A	Method Blank	94	101	100	98	104	101	97	99
MRL 380-253322/21-A	Lab Control Sample	100	107	107	107	108	109	107	103

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)
380-236896-B-1-A MS	Matrix Spike	109	106	110	109	112	111	113	115
380-236896-C-1-A MSD	Matrix Spike Duplicate	107	103	106	105	107	109	117	115
380-236913-1	HALAWA SHAFT VIEWING POOL	113	111	111	109	110	120	117	116
380-236913-2	FB HALAWA SHAFT VIEWING POOL	109	102	106	106	108	110	113	116
LCS 380-253322/22-A	Lab Control Sample	105	102	103	104	107	106	106	110
MBL 380-253322/20-A	Method Blank	105	103	103	105	103	110	110	111
MRL 380-253322/21-A	Lab Control Sample	113	112	109	113	112	112	117	117

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: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-253322/20-A

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253322

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluorobutanoic acid (PFBA)	<0.68		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.36		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.47		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.46		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.24		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.45		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoropentanoic acid (PFPeA)	<0.37		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.35		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1
Perfluoropentanesulfonic acid (PFPeS)	<0.38		2.0	ng/L		09/18/26 03:00	09/18/26 13:45	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C6 PFDA	101		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C5 PFHxA	100		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C4 PFHpA	98		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C8 PFOA	104		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C9 PFNA	101		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C7 PFUnA	97		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C2 PFDoA	99		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C4 PFBA	105		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C5 PFPeA	103		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C3 PFBS	103		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C3 PFHxS	105		50 - 200	09/18/26 03:00	09/18/26 13:45	1

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QC Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MBL 380-253322/20-A

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253322

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	103		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C2-4:2-FTS	110		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C2-6:2-FTS	110		50 - 200	09/18/26 03:00	09/18/26 13:45	1
13C2-8:2-FTS	111		50 - 200	09/18/26 03:00	09/18/26 13:45	1

Lab Sample ID: LCS 380-253322/22-A

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	118	107		ng/L		90	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	118	109		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	118	114		ng/L		97	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	118	110		ng/L		93	70 - 130
Perfluorobutanesulfonic acid (PFBS)	118	112		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	118	115		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	118	112		ng/L		95	70 - 130
Perfluoroheptanoic acid (PFHpA)	118	114		ng/L		97	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	118	112		ng/L		94	70 - 130
Perfluorohexanoic acid (PFHxA)	118	113		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	118	109		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	118	108		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	118	112		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	118	110		ng/L		94	70 - 130
Perfluorobutanoic acid (PFBA)	118	111		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	118	106		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	118	114		ng/L		96	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	118	117		ng/L		99	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	118	109		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	118	113		ng/L		95	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	118	112		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	118	111		ng/L		94	70 - 130
Perfluoropentanoic acid (PFPeA)	118	107		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	118	111		ng/L		94	70 - 130

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QC Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: LCS 380-253322/22-A

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	118	114		ng/L		97	70 - 130
		LCS	LCS				
		%Recovery	Qualifier				Limits
13C3 HFPO-DA		105					50 - 200
13C6 PFDA		103					50 - 200
13C5 PFHxA		104					50 - 200
13C4 PFHpA		101					50 - 200
13C8 PFOA		106					50 - 200
13C9 PFNA		109					50 - 200
13C7 PFUnA		107					50 - 200
13C2 PFDoA		104					50 - 200
13C4 PFBA		105					50 - 200
13C5 PFPeA		102					50 - 200
13C3 PFBS		103					50 - 200
13C3 PFHxS		104					50 - 200
13C8 PFOS		107					50 - 200
13C2-4:2-FTS		106					50 - 200
13C2-6:2-FTS		106					50 - 200
13C2-8:2-FTS		110					50 - 200

Lab Sample ID: MRL 380-253322/21-A

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253322

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	2.06	J	ng/L		104	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	1.97	2.03	J	ng/L		103	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.97	1.97	J	ng/L		100	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.97	2.08	J	ng/L		105	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluorododecanoic acid (PFDoA)	1.97	2.09	J	ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.97	2.02	J	ng/L		103	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.97	1.98	J	ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	1.97	2.13	J	ng/L		108	50 - 150
Perfluorononanoic acid (PFNA)	1.97	2.06	J	ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.97	2.11	J	ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	1.97	2.14	J	ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.97	2.12	J	ng/L		108	50 - 150
Perfluorobutanoic acid (PFBA)	1.97	2.12	J	ng/L		108	50 - 150

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QC Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: MRL 380-253322/21-A

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253322

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	1.97	2.05	J	ng/L		104	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	1.97	2.14	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	1.97	2.25	J	ng/L		114	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.97	2.05	J	ng/L		104	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	1.97	2.00	J	ng/L		102	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	1.97	2.18	J	ng/L		111	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	1.97	2.12	J	ng/L		108	50 - 150
Perfluoropentanoic acid (PFPeA)	1.97	1.92	J	ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	1.97	1.94	J	ng/L		98	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	1.97	1.90	J	ng/L		97	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	100		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	107		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	108		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	107		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	113		50 - 200
13C5 PFPeA	112		50 - 200
13C3 PFBS	109		50 - 200
13C3 PFHxS	113		50 - 200
13C8 PFOS	112		50 - 200
13C2-4:2-FTS	112		50 - 200
13C2-6:2-FTS	117		50 - 200
13C2-8:2-FTS	117		50 - 200

Lab Sample ID: 380-236896-B-1-A MS

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 253322

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		118	103		ng/L		87	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		118	107		ng/L		90	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	113		ng/L		95	70 - 130

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QC Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-236896-B-1-A MS

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 253322

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		118	110		ng/L		93	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	105		ng/L		89	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		118	112		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		118	111		ng/L		94	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		118	112		ng/L		94	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	108		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		118	111		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		118	110		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.9		118	105		ng/L		86	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		118	110		ng/L		93	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		118	106		ng/L		90	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		118	110		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	108		ng/L		91	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	111		ng/L		94	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	111		ng/L		94	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		118	113		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		118	108		ng/L		91	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	115		ng/L		98	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	110		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		118	112		ng/L		94	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	107		ng/L		91	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	107		ng/L		90	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C3 HFPO-DA	102		50 - 200
13C6 PFDA	105		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	102		50 - 200
13C8 PFOA	106		50 - 200
13C9 PFNA	106		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	109		50 - 200
13C5 PFPeA	106		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	112		50 - 200

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QC Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Lab Sample ID: 380-236896-B-1-A MS

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 253322

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	111		50 - 200
13C2-6:2-FTS	113		50 - 200
13C2-8:2-FTS	115		50 - 200

Lab Sample ID: 380-236896-C-1-A MSD

Matrix: Water

Analysis Batch: 253409

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 253322

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		118	103		ng/L		88	70 - 130	0	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		118	107		ng/L		90	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		118	115		ng/L		98	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		118	108		ng/L		92	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		118	110		ng/L		94	70 - 130	5	30
Perfluorodecanoic acid (PFDA)	<2.0		118	113		ng/L		96	70 - 130	1	30
Perfluorododecanoic acid (PFDaA)	<2.0		118	110		ng/L		93	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		118	112		ng/L		95	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		118	109		ng/L		92	70 - 130	0	30
Perfluorohexanoic acid (PFHxA)	<2.0		118	110		ng/L		93	70 - 130	1	30
Perfluorononanoic acid (PFNA)	<2.0		118	110		ng/L		93	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	2.9		118	108		ng/L		89	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		118	112		ng/L		94	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		118	111		ng/L		94	70 - 130	5	30
Perfluorobutanoic acid (PFBA)	<2.0		118	110		ng/L		93	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		118	109		ng/L		93	70 - 130	1	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		118	113		ng/L		96	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		118	107		ng/L		91	70 - 130	4	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		118	107		ng/L		90	70 - 130	6	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEA)	<2.0		118	115		ng/L		97	70 - 130	6	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		118	115		ng/L		98	70 - 130	0	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		118	111		ng/L		94	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	<2.0		118	109		ng/L		92	70 - 130	2	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		118	109		ng/L		93	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		118	111		ng/L		94	70 - 130	4	30

Eurofins Pomona

QC Sample Results

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

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

Isotope Dilution	MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	104		50 - 200
13C6 PFDA	104		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	101		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	107		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	104		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	103		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	105		50 - 200
13C8 PFOS	107		50 - 200
13C2-4:2-FTS	109		50 - 200
13C2-6:2-FTS	117		50 - 200
13C2-8:2-FTS	115		50 - 200

QC Association Summary

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

LCMS

Prep Batch: 253322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-236913-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
380-236913-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	
MBL 380-253322/20-A	Method Blank	Total/NA	Water	533	
LCS 380-253322/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-253322/21-A	Lab Control Sample	Total/NA	Water	533	
380-236896-B-1-A MS	Matrix Spike	Total/NA	Water	533	
380-236896-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 253409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-236913-1	HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	253322
380-236913-2	FB HALAWA SHAFT VIEWING POOL	Total/NA	Water	533	253322
MBL 380-253322/20-A	Method Blank	Total/NA	Water	533	253322
LCS 380-253322/22-A	Lab Control Sample	Total/NA	Water	533	253322
MRL 380-253322/21-A	Lab Control Sample	Total/NA	Water	533	253322
380-236896-B-1-A MS	Matrix Spike	Total/NA	Water	533	253322
380-236896-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	253322

Lab Chronicle

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Client Sample ID: HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-1

Date Collected: 09/15/26 09:30

Matrix: Water

Date Received: 09/17/26 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			253322	G9MN	EA POM	09/18/26 03:00
Total/NA	Analysis	533		1	253409	Y5FM	EA POM	09/18/26 17:27

Client Sample ID: FB HALAWA SHAFT VIEWING POOL

Lab Sample ID: 380-236913-2

Date Collected: 09/15/26 09:30

Matrix: Water

Date Received: 09/17/26 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			253322	G9MN	EA POM	09/18/26 03:00
Total/NA	Analysis	533		1	253409	Y5FM	EA POM	09/18/26 17:36

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: 380-236913-1
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	01-31-27

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

Method Summary

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

Job ID: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated 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: 380-236913-1
SDG: PFAS: Halawa Shaft Viewing Pool

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-236913-1	HALAWA SHAFT VIEWING POOL	Water	09/15/26 09:30	09/17/26 09:35	Hawaii
380-236913-2	FB HALAWA SHAFT VIEWING POOL	Water	09/15/26 09:30	09/17/26 09:35	Hawaii

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

Environment Testing
America



Ver: 01/16/2019/29/2026

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

SHIP DATE: 16SEP26
ACTWGT: 54.00 LB
CAD: 258050552/INET4535

BILL RECIPIENT

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

POMONA CA 91768

(626) 386-1100

REF

INV
PO.

DEPT.



FedEx
Express



J251026612011W

1 of 2

THU - 17 SEP 10:30A
PRIORITY OVERNIGHT

TRK# 8773 1622 0019

0201
MASTER

WM ONTA

91768

CA-US ONT



(631A) 29402-21 961-100 269
Mark Urrutia 7/17/26 935

58KJ60166/4848

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Eurofins Pomona

941 Corporate Center Drive

Pomona, CA 91768-2642

Phone (626) 386-1100

Chain of Custody Record

Environment Testing
America

Client Information		Sampler Kai Edison		Lab PM Lopez, Maria		Carrier Tracking No(s)		COC No					
Client Contact: Kirk Iwamoto		Phone +1 808 748 5840		E-Mail Maria.Lopez@et.eurofinsus.com		State of Origin		Page Page 1 of 1					
Company City & County of Honolulu		PWSID		Analysis Requested						Job # J80-236913 COC			
Address 630 South Beretania Street, Chemistry Lab		Due Date Requested		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) S37 1_DW_PREC - S37 1 Full List S33 - All Analytes						Total Number of containers		Preservation Codes: A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Y Trizma Z other (specify) Other: NH4 Acetate	
City Honolulu		TAT Requested (days) RUSH											
State Zip HI, 96843		Compliance Project Δ No											
Phone 808-748-5840 (tel)		PO # C20525101 exp 05312023											
Email kiwamoto@hbws.org		WO #											
Project Name RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill		Project # 38001111											
Site		SSOW#											
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wastefoil, BT=Tissue, A=Air)		Preservation Code:		Special Instructions/Note:	
HALAWA SHAFT VIEWING POOL		15-Sep-2026		9:30		G		Water		3 3			
FB HALAWA SHAFT VIEWING POOL		15-Sep-2026		9:30		G		Water		1 1			
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months											
Deliverable Requested I, II, III, IV, Other (specify)		Special Instructions/QC Requirements											
Empty Kit Relinquished by:		Date		Time		Method of Shipment		FedX					
Relinquished by: Kai Edison		Date/Time: 9/16/26 12:00		Company: HBWS		Received by: Mark Iwamoto		Date/Time: 9/17/26 935		Company: E&E			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Custody Seals Intact. Δ Yes Δ No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks: (63/1) 29+02 3.1 gel-frozen									

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

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

POMONA CA 91768

(626) 386-1100

REF

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1 of 2

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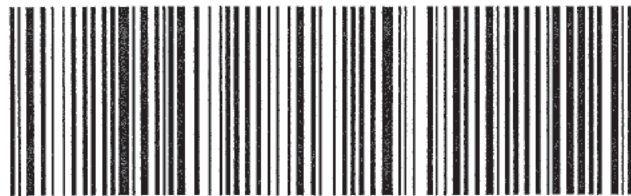
TRK# 8773 1622 0019

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-236913-1

SDG Number: PFAS: Halawa Shaft Viewing Pool

Login Number: 236913

List Number: 1

Creator: Abaya, Ashton

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