

ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells P1
RUSH Weekly Red Hill

JOB NUMBER

380-235718-1

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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



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Definitions/Glossary

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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: 380-235718-1

Job ID: 380-235718-1

Eurofins Pomona

Job Narrative 380-235718-1

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 9/10/2026 10:05 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 1.7°C.

PFAS

Method 533: IDAs 13C6 PFDA, 13C9 PFNA, 13C7 PFUnA and 13C2 PFDa failed low in sample HALAWA WELLS P1 (331-023-WL065) (380-235718-1). Sample was used as an MS/MSD. No more backup bottle for re-extract. Results not acceptable pre method. PFAS results by 533 for HALAWA WELLS P1 (331-023-WL065) (380-235718-1) collected on 09/08/26 are not acceptable for compliance reporting due to QC failures of Isotope Dilution Analytes (IDA) not meeting the method limits, PFAS results by EPA 533 have been excluded. The sample is collected weekly thus follow up sample was collected on 09/14/26. Analysis by EPA 533 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: 380-235718-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.8		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	2.9		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L	1		EPA 537.1 V2	Total/NA

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-2

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: 380-235718-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-1

Date Collected: 09/08/26 10:32

Matrix: Drinking Water

Date Received: 09/10/26 10:05

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		09/11/26 20:20	09/14/26 15:33	1
Perfluorooctanesulfonic acid (PFOS)	2.8		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorohexanoic acid (PFHxA)	2.9		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorooctanoic acid (PFOA)	2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorohexanesulfonic acid (PFHxS)	3.2		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		70 - 130			09/11/26 20:20	09/14/26 15:33	1
13C2 PFHxA	101		70 - 130			09/11/26 20:20	09/14/26 15:33	1
13C2 PFDA	99		70 - 130			09/11/26 20:20	09/14/26 15:33	1
13C3-GenX	85		70 - 130			09/11/26 20:20	09/14/26 15:33	1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-2

Date Collected: 09/08/26 10:32

Matrix: Water

Date Received: 09/10/26 10:05

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		09/11/26 20:20	09/14/26 15:43	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1

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Client Sample Results

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-2

Date Collected: 09/08/26 10:32

Matrix: Water

Date Received: 09/10/26 10:05

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/11/26 20:20	09/14/26 15:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	93		70 - 130			09/11/26 20:20	09/14/26 15:43	1
13C2 PFHxA	95		70 - 130			09/11/26 20:20	09/14/26 15:43	1
13C2 PFDA	102		70 - 130			09/11/26 20:20	09/14/26 15:43	1
13C3-GenX	76		70 - 130			09/11/26 20:20	09/14/26 15:43	1

Action Limit Summary

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-1

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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		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)	3.2		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-2

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	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: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-235718-1	HALAWA WELLS P1 (331-023-V)	98	101	99	85

Surrogate Legend

d5NEFOS = d5-NEtFOSAA

PFHxA = 13C2 PFHxA

PFDA = 13C2 PFDA

GenX = 13C3-GenX

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS (70-130)	PFHxA (70-130)	PFDA (70-130)	GenX (70-130)
380-235718-2	FB: HALAWA WELLS P1 (331-0	93	95	102	76
380-235750-B-1-A MS	Matrix Spike	97	100	104	88
380-235750-C-1-A MSD	Matrix Spike Duplicate	100	108	103	92
LCS 380-252265/22-A	Lab Control Sample	93	100	105	84
MBL 380-252265/20-A	Method Blank	90	98	94	82
MRL 380-252265/21-A	Lab Control Sample	101	105	103	89

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: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Matrix: Drinking 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)
380-235718-1	HALAWA WELLS P1 (331-023-WL0	63	33 *5-	65	62	54	44 *5-	32 *5-	40 *5-
380-235718-1 MS	HALAWA WELLS P1 (331-023-WL065)	78	86	90	87	86	85	92	94
380-235718-1 MSD	HALAWA WELLS P1 (331-023-WL065)	99	103	106	103	107	105	105	100
		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)
380-235718-1	HALAWA WELLS P1 (331-023-WL0	83	78	109	106	105	114	108	106
380-235718-1 MS	HALAWA WELLS P1 (331-023-WL065)	96	96	110	102	106	115	104	103
380-235718-1 MSD	HALAWA WELLS P1 (331-023-WL065)	104	105	103	97	105	113	108	101
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									

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)
380-235718-2	FB: HALAWA WELLS P1 (331-023-1	84	100	96	97	97	102	99	98
LCS 380-252162/22-A	Lab Control Sample	92	104	104	101	106	105	105	103
MBL 380-252162/20-A	Method Blank	88	101	105	103	105	100	101	98
MRL 380-252162/21-A	Lab Control Sample	90	104	103	103	105	107	108	106
		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)
380-235718-2	FB: HALAWA WELLS P1 (331-023-1	100	100	107	106	107	112	107	106
LCS 380-252162/22-A	Lab Control Sample	104	101	108	109	107	109	108	105
MBL 380-252162/20-A	Method Blank	103	109	103	106	100	106	107	105
MRL 380-252162/21-A	Lab Control Sample	102	103	105	102	102	98	105	101
Surrogate Legend									

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Isotope Dilution Summary

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

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QC Sample Results

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-252265/20-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 252265

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<0.98		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorooctanesulfonic acid (PFOS)	<0.42		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluoroundecanoic acid (PFUnA)	<0.41		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.57		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.41		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorohexanoic acid (PFHxA)	<0.45		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorododecanoic acid (PFDoA)	<0.53		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorooctanoic acid (PFOA)	<0.37		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorodecanoic acid (PFDA)	<0.30		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorohexanesulfonic acid (PFHxS)	<0.31		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorobutanesulfonic acid (PFBS)	<0.36		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluoroheptanoic acid (PFHpA)	<0.38		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorononanoic acid (PFNA)	<0.39		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorotetradecanoic acid (PFTA)	<0.53		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
Perfluorotridecanoic acid (PFTrDA)	<0.35		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.29		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.29		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.59		2.0	ng/L		09/11/26 20:20	09/14/26 14:17	1

Surrogate	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	90		70 - 130	09/11/26 20:20	09/14/26 14:17	1
13C2 PFHxA	98		70 - 130	09/11/26 20:20	09/14/26 14:17	1
13C2 PFDA	94		70 - 130	09/11/26 20:20	09/14/26 14:17	1
13C3-GenX	82		70 - 130	09/11/26 20:20	09/14/26 14:17	1

Lab Sample ID: LCS 380-252265/22-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	49.1	36.6		ng/L		74	70 - 130
Perfluorooctanesulfonic acid (PFOS)	49.1	47.4		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	49.1	47.0		ng/L		96	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	49.1	45.7		ng/L		93	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	49.1	43.8		ng/L		89	70 - 130
Perfluorohexanoic acid (PFHxA)	49.1	44.4		ng/L		90	70 - 130
Perfluorododecanoic acid (PFDoA)	49.1	48.7		ng/L		99	70 - 130
Perfluorooctanoic acid (PFOA)	49.1	46.9		ng/L		95	70 - 130
Perfluorodecanoic acid (PFDA)	49.1	45.5		ng/L		93	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: LCS 380-252265/22-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	49.1	48.4		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	49.1	48.3		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	49.1	45.2		ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	49.1	49.0		ng/L		100	70 - 130
Perfluorotetradecanoic acid (PFTA)	49.1	41.4		ng/L		84	70 - 130
Perfluorotridecanoic acid (PFTDA)	49.1	46.9		ng/L		96	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	49.1	48.0		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.1	46.6		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	49.1	42.7		ng/L		87	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	93		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	105		70 - 130
13C3-GenX	84		70 - 130

Lab Sample ID: MRL 380-252265/21-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	1.96	1.46	J	ng/L		74	50 - 150
Perfluorooctanesulfonic acid (PFOS)	1.96	1.97	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	1.96	1.79	J	ng/L		91	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	1.96	1.78	J	ng/L		91	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.96	1.82	J	ng/L		93	50 - 150
Perfluorohexanoic acid (PFHxA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorododecanoic acid (PFDoA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorooctanoic acid (PFOA)	1.96	1.79	J	ng/L		91	50 - 150
Perfluorodecanoic acid (PFDA)	1.96	1.82	J	ng/L		93	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	1.96	2.10	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	1.96	1.88	J	ng/L		96	50 - 150
Perfluoroheptanoic acid (PFHpA)	1.96	2.00	J	ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	1.96	1.87	J	ng/L		95	50 - 150
Perfluorotetradecanoic acid (PFTA)	1.96	1.69	J	ng/L		86	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-252265/21-A

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotridecanoic acid (PFTTrDA)	1.96	1.78	J	ng/L		90	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	1.96	1.89	J	ng/L		96	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	1.82	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.96	1.74	J	ng/L		89	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
d5-NEtFOSAA	101		70 - 130				
13C2 PFHxA	105		70 - 130				
13C2 PFDA	103		70 - 130				
13C3-GenX	89		70 - 130				

Lab Sample ID: 380-235750-B-1-A MS

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		24.6	19.9		ng/L		81	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	24.8		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	24.1		ng/L		98	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	23.3		ng/L		95	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	23.4		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	23.9		ng/L		94	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	24.0		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		24.6	24.0		ng/L		97	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		24.6	24.7		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	25.9		ng/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	25.6		ng/L		104	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	24.4		ng/L		98	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		24.6	24.4		ng/L		99	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	23.2		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	<2.0		24.6	24.5		ng/L		100	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.0		ng/L		101	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.7		ng/L		101	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-235750-B-1-A MS

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	21.7		ng/L		88	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
d5-NEtFOSAA	97		70 - 130						
13C2 PFHxA	100		70 - 130						
13C2 PFDA	104		70 - 130						
13C3-GenX	88		70 - 130						

Lab Sample ID: 380-235750-C-1-A MSD

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 252265

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		24.6	20.5		ng/L		83	70 - 130	3	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		24.6	25.1		ng/L		102	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.0		24.6	25.7		ng/L		104	70 - 130	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		24.6	24.0		ng/L		98	70 - 130	3	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		24.6	24.5		ng/L		100	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		24.6	25.0		ng/L		99	70 - 130	5	30
Perfluorododecanoic acid (PFDoA)	<2.0		24.6	24.8		ng/L		101	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	<2.0		24.6	25.7		ng/L		105	70 - 130	7	30
Perfluorodecanoic acid (PFDA)	<2.0		24.6	25.1		ng/L		102	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		24.6	25.7		ng/L		102	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		24.6	25.3		ng/L		103	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		24.6	24.8		ng/L		99	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		24.6	26.8		ng/L		109	70 - 130	9	30
Perfluorotetradecanoic acid (PFTA)	<2.0		24.6	24.2		ng/L		98	70 - 130	4	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		24.6	26.3		ng/L		107	70 - 130	7	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		24.6	25.3		ng/L		103	70 - 130	2	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		24.6	24.9		ng/L		101	70 - 130	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		24.6	23.8		ng/L		97	70 - 130	9	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
d5-NEtFOSAA	100		70 - 130								
13C2 PFHxA	108		70 - 130								
13C2 PFDA	103		70 - 130								

Eurofins Pomona

QC Sample Results

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-235750-C-1-A MSD

Matrix: Water

Analysis Batch: 252427

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 252265

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
13C3-GenX	92		70 - 130

QC Association Summary

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

LCMS

Prep Batch: 252265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-235718-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-235718-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	537.1 DW	
MBL 380-252265/20-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-252265/22-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-252265/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-235750-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-235750-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 252427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-235718-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	252265
380-235718-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	EPA 537.1 V2	252265
MBL 380-252265/20-A	Method Blank	Total/NA	Water	EPA 537.1 V2	252265
LCS 380-252265/22-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	252265
MRL 380-252265/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	252265
380-235750-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	252265
380-235750-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	252265

Lab Chronicle

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

Client Sample ID: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-1

Date Collected: 09/08/26 10:32

Matrix: Drinking Water

Date Received: 09/10/26 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			252265	LM3A	EA POM	09/11/26 20:20
Total/NA	Analysis	EPA 537.1 V2		1	252427	UKDT	EA POM	09/14/26 15:33

Client Sample ID: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-235718-2

Date Collected: 09/08/26 10:32

Matrix: Water

Date Received: 09/10/26 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			252265	LM3A	EA POM	09/11/26 20:20
Total/NA	Analysis	EPA 537.1 V2		1	252427	UKDT	EA POM	09/14/26 15:43

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: 380-235718-1
SDG: PFAS: Halawa Wells P1

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
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- 16
- 17

Method Summary

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

Job ID: 380-235718-1
SDG: PFAS: Halawa Wells P1

Method	Method Description	Protocol	Laboratory
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	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: 380-235718-1
SDG: PFAS: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-235718-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	09/08/26 10:32	09/10/26 10:05	Hawaii
380-235718-2	FB: HALAWA WELLS P1 (331-023-WL065)	Water	09/08/26 10:32	09/10/26 10:05	Hawaii

- 1
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**Environment Testing
America**

9/21/2026

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-235718-1
SDG Number: PFAS: Halawa Wells P1

Login Number: 235718

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	