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ANALYTICAL REPORT

PREPARED FOR

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City & County of Honolulu
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Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
PFAS: Halawa Wells P1

JOB NUMBER

380-201240-1

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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
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Definitions/Glossary

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

Job ID: 380-201240-1
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: 380-201240-1

Job ID: 380-201240-1

Eurofins Pomona

Job Narrative 380-201240-1

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

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

Receipt

The samples were received on 3/4/2026 10:01 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C.

PFAS

Method 533: Possible IDA not spiked for sample HALAWA WELLS P1 (331-023-WL065) (380-201240-1). Results not acceptable per method, prior extractions/analysis had IDA failures. Insufficient volume for re-extraction / re-analysis. PFAS results by 533 for HALAWA WELLS P1 (331-023-WL065) (380-201240-1) collected on 03/02/26 is not acceptable for compliance reporting due to QC failures of Isotope Dilution Analytes (IDA) not meeting the method limits. The sample is collected weekly thus follow up samples was collected on 03/23/26 under job # 380-204768. 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: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-201240-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.8		2.0	ng/L	1		EPA 537.1 V2	Total/NA

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

Lab Sample ID: 380-201240-2

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: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-201240-1

Date Collected: 03/02/26 10:51

Matrix: Drinking Water

Date Received: 03/04/26 10:01

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorooctanesulfonic acid (PFOS)	2.6		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorohexanesulfonic acid (PFHxS)	2.8		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		70 - 130			03/09/26 01:16	03/10/26 01:29	1
13C2 PFHxA	86		70 - 130			03/09/26 01:16	03/10/26 01:29	1
13C2 PFDA	103		70 - 130			03/09/26 01:16	03/10/26 01:29	1
13C3-GenX	89		70 - 130			03/09/26 01:16	03/10/26 01:29	1

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

Lab Sample ID: 380-201240-2

Date Collected: 03/02/26 10:51

Matrix: Water

Date Received: 03/04/26 10:01

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1

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Client Sample Results

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

Job ID: 380-201240-1
 SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-201240-2

Date Collected: 03/02/26 10:51

Matrix: Water

Date Received: 03/04/26 10:01

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		03/09/26 01:16	03/10/26 01:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
11-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		03/09/26 01:16	03/10/26 01:39	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	103		70 - 130			03/09/26 01:16	03/10/26 01:39	1
13C2 PFHxA	85		70 - 130			03/09/26 01:16	03/10/26 01:39	1
13C2 PFDA	107		70 - 130			03/09/26 01:16	03/10/26 01:39	1
13C3-GenX	76		70 - 130			03/09/26 01:16	03/10/26 01:39	1

Action Limit Summary

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-201240-1

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	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		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)	2.8		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: TB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-201240-2

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	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: 380-201240-1
 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)
380-201240-1	HALAWA WELLS P1 (331-023-V	104	86	103	89

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)
380-200977-T-1-A MS	Matrix Spike	107	91	109	95
380-200977-U-1-A MSD	Matrix Spike Duplicate	103	97	106	96
380-201240-2	TB: HALAWA WELLS P1 (331-023-WL065)	103	85	107	76
LCS 380-211717/21-A	Lab Control Sample	102	90	107	73
MBL 380-211717/19-A	Method Blank	87	87	107	76
MRL 380-211717/20-A	Lab Control Sample	85	93	105	73

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: 380-201240-1
SDG: PFAS: Halawa Wells Units 1&2 P1

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

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-201240-1	HALAWA WELLS UNITS 1 & 2 P1 (	0.4 *5-	0.3 *5-	0.3 *5-	0.3 *5-	0.3 *5-	0.3 *5-	0.2 *5-	0.1 *5-

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-201240-1	HALAWA WELLS UNITS 1 & 2 P1 (	1 *5-	0.3 *5-	0 *5-	3 *5-	0 *5-	0 *5-	0 *5-	0 *5-

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 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

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDoA (50-200)
380-201240-2	FB HALAWA WELLS UNITS 1 & 2 (	93	104	104	105	104	106	104	101
380-202207-A-69-B MS	Matrix Spike	96	88	94	96	98	92	89	90
380-202207-A-69-C MSD	Matrix Spike Duplicate	91	84	94	92	91	86	83	92
LCS 380-211225/22-A	Lab Control Sample	108	117	113	112	111	117	118	120
LCS 380-212599/22-A	Lab Control Sample	110	122	115	116	116	117	123	126
MBL 380-211225/20-A	Method Blank	94	107	112	108	106	112	106	108
MBL 380-212599/20-A	Method Blank	94	108	101	103	107	108	109	110
MRL 380-211225/21-A	Lab Control Sample	85	98	93	98	99	96	98	97
MRL 380-212599/21-A	Lab Control Sample	86	99	95	93	98	96	100	103

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
380-201240-2	FB HALAWA WELLS UNITS 1 & 2 (	102	107	106	108	106	115	105	107
380-202207-A-69-B MS	Matrix Spike	112	124	115	121	120	124	129	129
380-202207-A-69-C MSD	Matrix Spike Duplicate	109	130	115	118	120	116	130	122
LCS 380-211225/22-A	Lab Control Sample	115	117	113	112	117	119	115	114
LCS 380-212599/22-A	Lab Control Sample	119	120	120	123	124	132	122	122
MBL 380-211225/20-A	Method Blank	110	111	109	104	111	114	112	106
MBL 380-212599/20-A	Method Blank	109	111	128	128	125	128	131	125
MRL 380-211225/21-A	Lab Control Sample	98	104	99	103	106	107	102	102

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Isotope Dilution Summary

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

Job ID: 380-201240-1
 SDG: PFAS: Halawa Wells Units 1&2 P1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (50-200)	PFPeA (50-200)	C3PFBS (50-200)	C3PFHS (50-200)	C8PFOS (50-200)	42FTS (50-200)	62FTS (50-200)	82FTS (50-200)
MRL 380-212599/21-A	Lab Control Sample	102	93	119	121	123	122	121	122

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA
- 13C5PHA = 13C5 PFHxA
- C4PFHA = 13C4 PFHpA
- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- 13C7PUA = 13C7 PFUnA
- PFDoA = 13C2 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



QC Sample Results

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MBL 380-211717/19-A
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 211717

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Perfluorotridecanoic acid (PFTrDA)	<0.36		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<0.30		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		03/09/26 01:16	03/09/26 22:56	1
Surrogate	MBL %Recovery	MBL Qualifier	Limits			Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	87		70 - 130			03/09/26 01:16	03/09/26 22:56	1
13C2 PFHxA	87		70 - 130			03/09/26 01:16	03/09/26 22:56	1
13C2 PFDA	107		70 - 130			03/09/26 01:16	03/09/26 22:56	1
13C3-GenX	76		70 - 130			03/09/26 01:16	03/09/26 22:56	1

Lab Sample ID: LCS 380-211717/21-A
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 211717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	25.1	18.5		ng/L		74	70 - 130
Perfluorooctanesulfonic acid (PFOS)	25.1	24.1		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	25.1	24.3		ng/L		97	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	25.1	23.1		ng/L		92	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	25.1	23.9		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	25.1	21.5		ng/L		85	70 - 130
Perfluorododecanoic acid (PFDoA)	25.1	25.4		ng/L		101	70 - 130
Perfluorooctanoic acid (PFOA)	25.1	24.1		ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA)	25.1	25.1		ng/L		100	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: LCS 380-211717/21-A
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 211717

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanesulfonic acid (PFHxS)	25.1	26.1		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	25.1	24.8		ng/L		99	70 - 130
Perfluoroheptanoic acid (PFHpA)	25.1	23.8		ng/L		95	70 - 130
Perfluorononanoic acid (PFNA)	25.1	25.0		ng/L		99	70 - 130
Perfluorotetradecanoic acid (PFTA)	25.1	19.3		ng/L		77	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	25.1	24.5		ng/L		98	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	25.1	25.7		ng/L		102	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	25.1	23.8		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	25.1	20.1		ng/L		80	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	102		70 - 130
13C2 PFHxA	90		70 - 130
13C2 PFDA	107		70 - 130
13C3-GenX	73		70 - 130

Lab Sample ID: MRL 380-211717/20-A
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 211717

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	1.46	J	ng/L		73	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.08	J	ng/L		104	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.88	J	ng/L		94	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.92	J	ng/L		96	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	1.78	J	ng/L		89	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.06	J	ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	1.95	J	ng/L		97	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.04	J	ng/L		102	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.06	J	ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	1.89	J	ng/L		94	50 - 150
Perfluorononanoic acid (PFNA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.00	1.59	J	ng/L		79	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: MRL 380-211717/20-A
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 211717

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotridecanoic acid (PFTTrDA)	2.00	2.07	J	ng/L		103	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	2.06	J	ng/L		103	50 - 150
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	1.89	J	ng/L		94	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	1.55	J	ng/L		77	50 - 150
		MRL	MRL				
Surrogate		%Recovery	Qualifier	Limits			
d5-NEtFOSAA		85		70 - 130			
13C2 PFHxA		93		70 - 130			
13C2 PFDA		105		70 - 130			
13C3-GenX		73		70 - 130			

Lab Sample ID: 380-200977-T-1-A MS
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 211717

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		25.1	22.6		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	25.3		ng/L		97	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.3		ng/L		101	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.7		ng/L		98	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	27.6		ng/L		110	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	22.2		ng/L		89	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	25.2		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		25.1	24.5		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		25.1	25.2		ng/L		100	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.3		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.1		25.1	28.7		ng/L		106	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	26.0		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		25.1	26.3		ng/L		105	70 - 130
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	20.4		ng/L		81	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.1	25.3		ng/L		101	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	24.6		ng/L		98	70 - 130
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	24.8		ng/L		99	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-200977-T-1-A MS
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 211717

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		25.1	24.7		ng/L		98	70 - 130
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
d5-NEtFOSAA	107		70 - 130						
13C2 PFHxA	91		70 - 130						
13C2 PFDA	109		70 - 130						
13C3-GenX	95		70 - 130						

Lab Sample ID: 380-200977-U-1-A MSD
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 211717

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		25.1	23.0		ng/L		92	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		25.1	25.2		ng/L		97	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA)	<2.0		25.1	25.1		ng/L		100	70 - 130	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		25.1	24.7		ng/L		99	70 - 130	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		25.1	25.1		ng/L		100	70 - 130	10	30
Perfluorohexanoic acid (PFHxA)	<2.0		25.1	23.8		ng/L		95	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	<2.0		25.1	24.8		ng/L		99	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	<2.0		25.1	24.6		ng/L		98	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		25.1	24.6		ng/L		98	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		25.1	26.8		ng/L		104	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS)	2.1		25.1	28.5		ng/L		106	70 - 130	0	30
Perfluoroheptanoic acid (PFHpA)	<2.0		25.1	25.4		ng/L		102	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		25.1	27.0		ng/L		108	70 - 130	2	30
Perfluorotetradecanoic acid (PFTA)	<2.0		25.1	21.4		ng/L		86	70 - 130	5	30
Perfluorotridecanoic acid (PFTTrDA)	<2.0		25.1	26.4		ng/L		105	70 - 130	4	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		25.1	26.2		ng/L		105	70 - 130	6	30
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		25.1	25.5		ng/L		102	70 - 130	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		25.1	23.4		ng/L		93	70 - 130	5	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
d5-NEtFOSAA	103		70 - 130								
13C2 PFHxA	97		70 - 130								
13C2 PFDA	106		70 - 130								

QC Sample Results

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-200977-U-1-A MSD
Matrix: Water
Analysis Batch: 211878

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 211717

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C3-GenX	96		70 - 130

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QC Association Summary

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

Job ID: 380-201240-1
 SDG: PFAS: Halawa Wells P1

LCMS

Prep Batch: 211717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-201240-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-201240-2	TB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	537.1 DW	
MBL 380-211717/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-211717/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-211717/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-200977-T-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-200977-U-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Analysis Batch: 211878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-201240-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	211717
380-201240-2	TB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Water	EPA 537.1 V2	211717
MBL 380-211717/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	211717
LCS 380-211717/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	211717
MRL 380-211717/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	211717
380-200977-T-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	211717
380-200977-U-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	211717

Lab Chronicle

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

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

Lab Sample ID: 380-201240-1

Date Collected: 03/02/26 10:51

Matrix: Drinking Water

Date Received: 03/04/26 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			211717	G9MN	EA POM	03/09/26 01:16
Total/NA	Analysis	EPA 537.1 V2		1	211878	M7ML	EA POM	03/10/26 01:29

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

Lab Sample ID: 380-201240-2

Date Collected: 03/02/26 10:51

Matrix: Water

Date Received: 03/04/26 10:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537.1 DW			211717	G9MN	EA POM	03/09/26 01:16
Total/NA	Analysis	EPA 537.1 V2		1	211878	M7ML	EA POM	03/10/26 01:39

Laboratory References:

EA POM = Eurofins Pomona, 941 Corporate Center Drive, Pomona, CA 91768-2642, TEL (626)386-1100

Accreditation/Certification Summary

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

Job ID: 380-201240-1
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	01-31-26 *

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

Method Summary

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

Job ID: 380-201240-1
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

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Sample Summary

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

Job ID: 380-201240-1
SDG: PFAS: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-201240-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	03/02/26 10:51	03/04/26 10:01	Hawaii
380-201240-2	TB: HALAWA WELLS P1 (331-023-WL065)	Water	03/02/26 10:51	03/04/26 10:01	Hawaii

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Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-201240-1
SDG Number: PFAS: Halawa Wells P1

Login Number: 201240

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	