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ANALYTICAL REPORT

PREPARED FOR

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JOB DESCRIPTION

RED-HILL
Weekly: Halawa Wells P1

JOB NUMBER

380-220720-1

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Job Notes

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

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

Compliance Statement

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

Authorization



Authorized for release by
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Definitions/Glossary

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

Job ID: 380-220720-1
SDG: Weekly: 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: 380-220720-1

Job ID: 380-220720-1

Eurofins Pomona

Job Narrative 380-220720-1

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 6/19/2026 9:55 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 1.4°C.

PFAS

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

Detection Summary

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.8		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	3.9		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	3.2		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: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-220720-2

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: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-1

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorohexanesulfonic acid (PFHxS)	2.8		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorohexanoic acid (PFHxA)	3.3		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoropentanoic acid (PFPeA)	3.9		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C6 PFDA	87		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C5 PFHxA	91		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C4 PFHpA	89		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C8 PFOA	94		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C9 PFNA	98		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C7 PFUnA	89		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C2 PFDoA	92		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C4 PFBA	97		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C5 PFPeA	95		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C3 PFBS	99		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C3 PFHxS	102		50 - 200	06/22/26 07:39	06/22/26 22:05	1

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Client Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-1

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	107		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C2-4:2-FTS	107		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C2-6:2-FTS	95		50 - 200	06/22/26 07:39	06/22/26 22:05	1
13C2-8:2-FTS	88		50 - 200	06/22/26 07:39	06/22/26 22:05	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
N-methylperfluorooctanesulfonamide cetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorohexanoic acid (PFHxA)	3.2		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorohexanesulfonic acid (PFHxS)	2.8		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
11-Chloroeicosafluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 01:53	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
d5-NEtFOSAA	96		70 - 130	06/22/26 09:45	06/23/26 01:53	1		
13C2 PFHxA	91		70 - 130	06/22/26 09:45	06/23/26 01:53	1		
13C2 PFDA	101		70 - 130	06/22/26 09:45	06/23/26 01:53	1		
13C3-GenX	90		70 - 130	06/22/26 09:45	06/23/26 01:53	1		

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

Lab Sample ID: 380-220720-2

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

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		06/22/26 07:39	06/22/26 22:15	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1

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Client Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-2

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		06/22/26 07:39	06/22/26 22:15	1
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	102		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C6 PFDA	100		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C5 PFHxA	104		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C4 PFHpA	107		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C8 PFOA	109		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C9 PFNA	109		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C7 PFUnA	103		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C2 PFDoA	103		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C4 PFBA	111		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C5 PFPeA	110		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C3 PFBS	109		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C3 PFHxS	113		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C8 PFOS	110		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C2-4:2-FTS	108		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C2-6:2-FTS	100		50 - 200			06/22/26 07:39	06/22/26 22:15	1
13C2-8:2-FTS	98		50 - 200			06/22/26 07:39	06/22/26 22:15	1

Client Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-2

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

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		06/22/26 09:45	06/23/26 02:02	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		06/22/26 09:45	06/23/26 02:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		70 - 130	06/22/26 09:45	06/23/26 02:02	1
13C2 PFHxA	101		70 - 130	06/22/26 09:45	06/23/26 02:02	1
13C2 PFDA	101		70 - 130	06/22/26 09:45	06/23/26 02:02	1
13C3-GenX	91		70 - 130	06/22/26 09:45	06/23/26 02:02	1

Action Limit Summary

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-1

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.8		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		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: FB: HALAWA WELLS P1 (331-023-WL065)

Lab Sample ID: 380-220720-2

Compliance Check

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

Analyte	Result	Qualifier	Unit	EPAMCL	RL	Method	Prep Type
				Limit			
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	533	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	533	Total/NA
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanesulfonic acid (PFOS)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	<2.0		ng/L	4	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	EPA 537.1 V2	Total/NA

Surrogate Summary

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

Job ID: 380-220720-1
 SDG: Weekly: 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)
380-220720-1	HALAWA WELLS P1 (331-023-WL0	96	91	101	90
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	94	101	101	91

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)
380-220637-B-1-A MS	Matrix Spike	101	111	108	99
380-220637-C-1-A MSD	Matrix Spike Duplicate	90	98	96	91
LCS 380-235374/21-A	Lab Control Sample	96	96	100	89
MBL 380-235374/19-A	Method Blank	99	103	101	94
MRL 380-235374/20-A	Lab Control Sample	95	100	100	91

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: 380-220720-1
SDG: Weekly: 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)	PFDoA (50-200)
380-220720-1	HALAWA WELLS P1 (331-023-WL0	88	87	91	89	94	98	89	92
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	102	100	104	107	109	109	103	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)
380-220720-1	HALAWA WELLS P1 (331-023-WL0	97	95	99	102	107	107	95	88
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	111	110	109	113	110	108	100	98

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

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)	PFDoA (50-200)
380-220637-E-1-A MS	Matrix Spike	106	98	104	107	109	109	108	106
380-220637-F-1-A MSD	Matrix Spike Duplicate	113	101	110	110	110	114	109	109
LCS 380-235377/21-A	Lab Control Sample	109	105	109	115	107	116	111	107
MBL 380-235377/19-A	Method Blank	96	99	93	104	105	105	97	103
MRL 380-235377/20-A	Lab Control Sample	101	100	103	107	109	115	103	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)
380-220637-E-1-A MS	Matrix Spike	107	109	110	114	113	112	106	95
380-220637-F-1-A MSD	Matrix Spike Duplicate	106	111	102	109	116	103	103	98
LCS 380-235377/21-A	Lab Control Sample	109	117	111	111	116	108	101	98
MBL 380-235377/19-A	Method Blank	101	99	105	112	112	107	103	96
MRL 380-235377/20-A	Lab Control Sample	106	109	106	107	109	104	97	93

Surrogate Legend

- HFPODA = 13C3 HFPO-DA
- C6PFDA = 13C6 PFDA

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Isotope Dilution Summary

Client: City & County of Honolulu

Project/Site: RED-HILL

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

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

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: MBL 380-235377/19-A
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 235377

Analyte	MBL	MBL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.618	J	2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		06/22/26 07:39	06/22/26 18:28	1

Isotope Dilution	MBL	MBL	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 HFPO-DA	96		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C6 PFDA	99		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C5 PFHxA	93		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C4 PFHpA	104		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C8 PFOA	105		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C9 PFNA	105		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C7 PFUnA	97		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C2 PFDoA	103		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C4 PFBA	101		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C5 PFPeA	99		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C3 PFBS	105		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C3 PFHxS	112		50 - 200	06/22/26 07:39	06/22/26 18:28	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: MBL 380-235377/19-A
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 235377

Isotope Dilution	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C8 PFOS	112		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C2-4:2-FTS	107		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C2-6:2-FTS	103		50 - 200	06/22/26 07:39	06/22/26 18:28	1
13C2-8:2-FTS	96		50 - 200	06/22/26 07:39	06/22/26 18:28	1

Lab Sample ID: LCS 380-235377/21-A
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	106		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	112		ng/L		93	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	120		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	118		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	120	121		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	120	112		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	108		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	118		ng/L		98	70 - 130
Perfluorohexanoic acid (PFHxA)	120	122		ng/L		101	70 - 130
Perfluorononanoic acid (PFNA)	120	106		ng/L		88	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	110		ng/L		91	70 - 130
Perfluorooctanoic acid (PFOA)	120	115		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	112		ng/L		93	70 - 130
Perfluorobutanoic acid (PFBA)	120	111		ng/L		92	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	115		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	113		ng/L		94	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	115		ng/L		96	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	120	119		ng/L		98	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	109		ng/L		91	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	112		ng/L		93	70 - 130
Perfluoropentanoic acid (PFPeA)	120	106		ng/L		88	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	113		ng/L		94	70 - 130

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: LCS 380-235377/21-A
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235377

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Perfluoropentanesulfonic acid (PFPeS)	120	121		ng/L		100	70 - 130
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C3 HFPO-DA	109		50 - 200				
13C6 PFDA	105		50 - 200				
13C5 PFHxA	109		50 - 200				
13C4 PFHpA	115		50 - 200				
13C8 PFOA	107		50 - 200				
13C9 PFNA	116		50 - 200				
13C7 PFUnA	111		50 - 200				
13C2 PFDoA	107		50 - 200				
13C4 PFBA	109		50 - 200				
13C5 PFPeA	117		50 - 200				
13C3 PFBS	111		50 - 200				
13C3 PFHxS	111		50 - 200				
13C8 PFOS	116		50 - 200				
13C2-4:2-FTS	108		50 - 200				
13C2-6:2-FTS	101		50 - 200				
13C2-8:2-FTS	98		50 - 200				

Lab Sample ID: MRL 380-235377/20-A
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235377

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.00	2.03	J	ng/L		101	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.00	1.91	J	ng/L		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.00	2.09	J	ng/L		105	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.00	2.15	J	ng/L		107	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.00	2.08	J	ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	2.00	2.27	J	ng/L		113	50 - 150
Perfluorododecanoic acid (PFDoA)	2.00	2.28	J	ng/L		114	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.00	2.13	J	ng/L		106	50 - 150
Perfluorohexanoic acid (PFHxA)	2.00	2.30	J	ng/L		115	50 - 150
Perfluorononanoic acid (PFNA)	2.00	1.98	J	ng/L		99	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.00	1.99	J	ng/L		99	50 - 150
Perfluorooctanoic acid (PFOA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.00	2.07	J	ng/L		103	50 - 150
Perfluorobutanoic acid (PFBA)	2.00	2.27	J	ng/L		113	50 - 150

Eurofins Pomona

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: MRL 380-235377/20-A
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235377

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.15	J	ng/L		107	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.16	J	ng/L		108	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.66	J	ng/L		133	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.31	J	ng/L		115	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.11	J	ng/L		105	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.17	J	ng/L		108	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.12	J	ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.09	J	ng/L		104	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.04	J	ng/L		102	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	101		50 - 200
13C6 PFDA	100		50 - 200
13C5 PFHxA	103		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	115		50 - 200
13C7 PFUnA	103		50 - 200
13C2 PFDoA	103		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	106		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	109		50 - 200
13C2-4:2-FTS	104		50 - 200
13C2-6:2-FTS	97		50 - 200
13C2-8:2-FTS	93		50 - 200

Lab Sample ID: 380-220637-E-1-A MS
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 235377

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		120	114		ng/L		95	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	111		ng/L		92	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	117		ng/L		97	70 - 130

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220637-E-1-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 235516

Prep Batch: 235377

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Hexafluoropropylene Oxide	<2.0		120	114		ng/L		95	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	118		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	122		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	109		ng/L		90	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		120	110		ng/L		92	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	115		ng/L		95	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		120	112		ng/L		93	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	109		ng/L		91	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	111		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		120	114		ng/L		95	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	111		ng/L		92	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	113		ng/L		93	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	114		ng/L		95	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	105		ng/L		87	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	111		ng/L		92	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	109		ng/L		90	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	119		ng/L		99	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	114		ng/L		95	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	111		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		120	108		ng/L		90	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	116		ng/L		96	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	115		ng/L		95	70 - 130

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	98		50 - 200
13C5 PFHxA	104		50 - 200
13C4 PFHpA	107		50 - 200
13C8 PFOA	109		50 - 200
13C9 PFNA	109		50 - 200
13C7 PFUnA	108		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	107		50 - 200
13C5 PFPeA	109		50 - 200
13C3 PFBS	110		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	113		50 - 200

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220637-E-1-A MS
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 235377

<i>Isotope Dilution</i>	<i>MS MS</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>	
13C2-4:2-FTS	112	50 - 200
13C2-6:2-FTS	106	50 - 200
13C2-8:2-FTS	95	50 - 200

Lab Sample ID: 380-220637-F-1-A MSD
Matrix: Water
Analysis Batch: 235516

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 235377

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		120	104		ng/L		86	70 - 130	9	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	103		ng/L		86	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	115		ng/L		96	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		120	113		ng/L		94	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		120	121		ng/L		101	70 - 130	3	30
Perfluorodecanoic acid (PFDA)	<2.0		120	130		ng/L		108	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	<2.0		120	110		ng/L		91	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		120	111		ng/L		92	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		120	116		ng/L		96	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		120	114		ng/L		95	70 - 130	2	30
Perfluorononanoic acid (PFNA)	<2.0		120	110		ng/L		91	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		120	106		ng/L		88	70 - 130	5	30
Perfluorooctanoic acid (PFOA)	<2.0		120	112		ng/L		93	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		120	109		ng/L		91	70 - 130	2	30
Perfluorobutanoic acid (PFBA)	<2.0		120	113		ng/L		94	70 - 130	0	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	110		ng/L		91	70 - 130	4	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	117		ng/L		97	70 - 130	11	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	108		ng/L		89	70 - 130	3	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		120	110		ng/L		91	70 - 130	1	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	125		ng/L		103	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	110		ng/L		91	70 - 130	3	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	110		ng/L		91	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		120	108		ng/L		89	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	108		ng/L		90	70 - 130	7	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	118		ng/L		98	70 - 130	3	30

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	113		50 - 200
13C6 PFDA	101		50 - 200
13C5 PFHxA	110		50 - 200
13C4 PFHpA	110		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	114		50 - 200
13C7 PFUnA	109		50 - 200
13C2 PFDoA	109		50 - 200
13C4 PFBA	106		50 - 200
13C5 PFPeA	111		50 - 200
13C3 PFBS	102		50 - 200
13C3 PFHxS	109		50 - 200
13C8 PFOS	116		50 - 200
13C2-4:2-FTS	103		50 - 200
13C2-6:2-FTS	103		50 - 200
13C2-8:2-FTS	98		50 - 200

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

Lab Sample ID: MBL 380-235374/19-A
Matrix: Water
Analysis Batch: 235510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 235374

Analyte	MBL MBL		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.58		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.42		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorotetradecanoic acid (PFTA)	<0.54		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
Perfluorotridecanoic acid (PFTTrDA)	<0.36		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		06/22/26 09:45	06/22/26 22:22	1

Surrogate	MBL MBL		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	99		70 - 130	06/22/26 09:45	06/22/26 22:22	1
13C2 PFHxA	103		70 - 130	06/22/26 09:45	06/22/26 22:22	1
13C2 PFDA	101		70 - 130	06/22/26 09:45	06/22/26 22:22	1

Eurofins Pomona

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: MBL 380-235374/19-A
Matrix: Water
Analysis Batch: 235510

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 235374

<i>Surrogate</i>	<i>MBL</i>	<i>MBL</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3-GenX	94	Qualifier	70 - 130	06/22/26 09:45	06/22/26 22:22	1

Lab Sample ID: LCS 380-235374/21-A
Matrix: Water
Analysis Batch: 235510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235374

<i>Analyte</i>	<i>Spike</i>	<i>LCS</i>	<i>LCS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i>
<i>Analyte</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
Hexafluoropropylene Oxide	50.2	44.1		ng/L		88	70 - 130
Dimer Acid (HFPO-DA/GenX)							
Perfluorooctanesulfonic acid (PFOS)	50.2	49.5		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA)	50.2	49.3		ng/L		98	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	50.2	49.7		ng/L		99	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	50.2	48.5		ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA)	50.2	48.1		ng/L		96	70 - 130
Perfluorododecanoic acid (PFDoA)	50.2	47.3		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA)	50.2	49.4		ng/L		98	70 - 130
Perfluorodecanoic acid (PFDA)	50.2	48.3		ng/L		96	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	50.2	49.8		ng/L		99	70 - 130
Perfluorobutanesulfonic acid (PFBS)	50.2	50.3		ng/L		100	70 - 130
Perfluoroheptanoic acid (PFHpA)	50.2	45.5		ng/L		91	70 - 130
Perfluorononanoic acid (PFNA)	50.2	49.7		ng/L		99	70 - 130
Perfluorotetradecanoic acid (PFTA)	50.2	41.4		ng/L		83	70 - 130
Perfluorotridecanoic acid (PFTrDA)	50.2	45.9		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	50.2	49.3		ng/L		98	70 - 130
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	50.2	49.5		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	50.2	47.5		ng/L		95	70 - 130

<i>Surrogate</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
d5-NEtFOSAA	96		70 - 130
13C2 PFHxA	96		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	89		70 - 130

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: MRL 380-235374/20-A
Matrix: Water
Analysis Batch: 235510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235374

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.74	J	ng/L		86	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.91	J	ng/L		95	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.02	J	ng/L		101	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.01	1.85	J	ng/L		92	50 - 150
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.01	2.02	J	ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	2.00	J	ng/L		100	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.88	J	ng/L		93	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.89	J	ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.97	J	ng/L		98	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorononanoic acid (PFNA)	2.01	2.03	J	ng/L		101	50 - 150
Perfluorotetradecanoic acid (PFTA)	2.01	1.70	J	ng/L		84	50 - 150
Perfluorotridecanoic acid (PFTrDA)	2.01	1.95	J	ng/L		97	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.97	J	ng/L		98	50 - 150
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.98	J	ng/L		99	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.85	J	ng/L		92	50 - 150

Surrogate	MRL %Recovery	MRL Qualifier	Limits
d5-NEtFOSAA	95		70 - 130
13C2 PFHxA	100		70 - 130
13C2 PFDA	100		70 - 130
13C3-GenX	91		70 - 130

Lab Sample ID: 380-220637-B-1-A MS
Matrix: Water
Analysis Batch: 235510

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 235374

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		50.1	46.3		ng/L		92	70 - 130
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.1	51.5		ng/L		103	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		50.1	51.2		ng/L		102	70 - 130
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		50.1	49.2		ng/L		98	70 - 130

Eurofins Pomona

QC Sample Results

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220637-B-1-A MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 235510

Prep Batch: 235374

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		50.1	48.7		ng/L		97	70 - 130	
Perfluorohexanoic acid (PFHxA)	<2.0		50.1	50.3		ng/L		100	70 - 130	
Perfluorododecanoic acid (PFDoA)	<2.0		50.1	50.0		ng/L		100	70 - 130	
Perfluorooctanoic acid (PFOA)	<2.0		50.1	52.5		ng/L		105	70 - 130	
Perfluorodecanoic acid (PFDA)	<2.0		50.1	51.7		ng/L		103	70 - 130	
Perfluorohexanesulfonic acid (PFHxS)	<2.0		50.1	52.0		ng/L		104	70 - 130	
Perfluorobutanesulfonic acid (PFBS)	<2.0		50.1	52.6		ng/L		105	70 - 130	
Perfluoroheptanoic acid (PFHpA)	<2.0		50.1	49.3		ng/L		98	70 - 130	
Perfluorononanoic acid (PFNA)	<2.0		50.1	52.1		ng/L		104	70 - 130	
Perfluorotetradecanoic acid (PFTA)	<2.0		50.1	44.6		ng/L		89	70 - 130	
Perfluorotridecanoic acid (PFTrDA)	<2.0		50.1	49.8		ng/L		99	70 - 130	
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	<2.0		50.1	51.3		ng/L		102	70 - 130	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		50.1	51.2		ng/L		102	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		50.1	49.3		ng/L		98	70 - 130	
Surrogate										
		MS	MS							
		%Recovery	Qualifier	Limits						
d5-NEtFOSAA		101		70 - 130						
13C2 PFHxA		111		70 - 130						
13C2 PFDA		108		70 - 130						
13C3-GenX		99		70 - 130						

Lab Sample ID: 380-220637-C-1-A MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 235510

Prep Batch: 235374

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		50.2	45.7		ng/L		91	70 - 130	1	30
Perfluorooctanesulfonic acid (PFOS)	<2.0		50.2	49.2		ng/L		98	70 - 130	4	30
Perfluoroundecanoic acid (PFUnA)	<2.0		50.2	47.4		ng/L		94	70 - 130	8	30
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	<2.0		50.2	47.7		ng/L		95	70 - 130	3	30
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	<2.0		50.2	46.8		ng/L		93	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	<2.0		50.2	47.0		ng/L		94	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	<2.0		50.2	46.5		ng/L		93	70 - 130	7	30
Perfluorooctanoic acid (PFOA)	<2.0		50.2	46.1		ng/L		92	70 - 130	13	30
Perfluorodecanoic acid (PFDA)	<2.0		50.2	47.3		ng/L		94	70 - 130	9	30

Eurofins Pomona

QC Association Summary

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

LCMS

Prep Batch: 235374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-220720-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	537.1 DW	
MBL 380-235374/19-A	Method Blank	Total/NA	Water	537.1 DW	
LCS 380-235374/21-A	Lab Control Sample	Total/NA	Water	537.1 DW	
MRL 380-235374/20-A	Lab Control Sample	Total/NA	Water	537.1 DW	
380-220637-B-1-A MS	Matrix Spike	Total/NA	Water	537.1 DW	
380-220637-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537.1 DW	

Prep Batch: 235377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-220720-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	
MBL 380-235377/19-A	Method Blank	Total/NA	Water	533	
LCS 380-235377/21-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-235377/20-A	Lab Control Sample	Total/NA	Water	533	
380-220637-E-1-A MS	Matrix Spike	Total/NA	Water	533	
380-220637-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 235510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-220720-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	235374
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	EPA 537.1 V2	235374
MBL 380-235374/19-A	Method Blank	Total/NA	Water	EPA 537.1 V2	235374
LCS 380-235374/21-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	235374
MRL 380-235374/20-A	Lab Control Sample	Total/NA	Water	EPA 537.1 V2	235374
380-220637-B-1-A MS	Matrix Spike	Total/NA	Water	EPA 537.1 V2	235374
380-220637-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 537.1 V2	235374

Analysis Batch: 235516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-220720-1	HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	235377
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	Total/NA	Drinking Water	533	235377
MBL 380-235377/19-A	Method Blank	Total/NA	Water	533	235377
LCS 380-235377/21-A	Lab Control Sample	Total/NA	Water	533	235377
MRL 380-235377/20-A	Lab Control Sample	Total/NA	Water	533	235377
380-220637-E-1-A MS	Matrix Spike	Total/NA	Water	533	235377
380-220637-F-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	235377

Lab Chronicle

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

Job ID: 380-220720-1
 SDG: Weekly: Halawa Wells P1

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

Lab Sample ID: 380-220720-1

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			235377	XTD8	EA POM	06/22/26 07:39
Total/NA	Analysis	533		1	235516	M7ML	EA POM	06/22/26 22:05
Total/NA	Prep	537.1 DW			235374	LM3A	EA POM	06/22/26 09:45
Total/NA	Analysis	EPA 537.1 V2		1	235510	M7ML	EA POM	06/23/26 01:53

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

Lab Sample ID: 380-220720-2

Date Collected: 06/18/26 09:10

Matrix: Drinking Water

Date Received: 06/19/26 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			235377	XTD8	EA POM	06/22/26 07:39
Total/NA	Analysis	533		1	235516	M7ML	EA POM	06/22/26 22:15
Total/NA	Prep	537.1 DW			235374	LM3A	EA POM	06/22/26 09:45
Total/NA	Analysis	EPA 537.1 V2		1	235510	M7ML	EA POM	06/23/26 02:02

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: 380-220720-1
SDG: Weekly: 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 *

- 1
- 2
- 3
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- 12
- 13
- 14
- 15
- 16
- 17

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

Method Summary

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
EPA 537.1 V2	EPA 537.1 Ver. 2.0 March 2020	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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



Sample Summary

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

Job ID: 380-220720-1
SDG: Weekly: Halawa Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Sample Origin
380-220720-1	HALAWA WELLS P1 (331-023-WL065)	Drinking Water	06/18/26 09:10	06/19/26 09:55	Hawaii
380-220720-2	FB: HALAWA WELLS P1 (331-023-WL065)	Drinking Water	06/18/26 09:10	06/19/26 09:55	Hawaii

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- 16
- 17

Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone (626) 386-1100

Chain of Custody Record



COC No: 380-220720 COC
 Page: Page 1 of 1
 Job #:

Client Information
 Client Contact: Jason Rakofsky
 Phone: +1 808 748 5840
 E-Mail: Maria.Lopez@et.eurofinsus.com

Company
 City & County of Honolulu
 Address: 630 South Beretania Street; Chemistry Lab
 City: Honolulu
 State Zip: HI, 96843
 Phone: 808-748-5840 (tel)
 Email: kiwamoto@hbws.org

Project Information
 Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill
 Project #: 38001111
 SOW#:
 Site:
 PWSID:
 Lab Pkt: Lopez, Maria
 State of Origin:
 Carrier Tracking No(s):
 Analysis Requested:
 Preservation Codes:
 M - Hexane
 N - None
 O - AshNaO2
 P - Na2OAS
 Q - Na2SO3
 R - Na2SO4
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Y - Trozma
 L - EDA
 Other:
 NH4 Acetate

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Organic, Other)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	637.1, DW, PREC - 637.1 Full List	633 - All Analytes	Total Number of Containers	Special Instructions/Note:
HALAWA WELLS P1 (331-023-WL065)	18-Jun-2026	0910	G	Water		X	X	3	3		
FB HALAWA WELLS P1 (331-023-WL065)	18-Jun-2026	0910						1	1		

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by:
 Date/Time: 6/18/26 11:04
 Company: HBWS

Relinquished by:
 Date/Time:
 Company:

Custody Seals Intact:
 Custody Seal No.
 Δ Yes Δ No

Method of Shipment:
 Date/Time: 6/19/26 9:55
 Company:
 Received by:
 Date/Time:
 Company:
 Received by:
 Date/Time:
 Company:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-220720-1
SDG Number: Weekly: Halawa Wells P1

Login Number: 220720

List Number: 1

Creator: Avila, Ivan

List Source: Eurofins Pomona

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

