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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

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JOB DESCRIPTION

RED-HILL
Weekly: Aiea Gulch Wells Pump 2

JOB NUMBER

380-216881-1

Eurofins Pomona
941 Corporate Center Drive
Pomona CA 91768-2642

See page two for job notes and contact information.

Job Notes

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

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

Compliance Statement

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

Authorization

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Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

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

Job Narrative
380-216881-1

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 5/29/2026 10:03 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.6°C.

PFAS
Method EPA 537.1 V2: The following QC issues in preparation batch 380-230775 and analytical batch 380-231111 were observed: Surrogate recoveries were above QC acceptable criteria (high bias) due to possible double spike for sample AIEA GULCH WELLS PUMP 2 (331-202-TP072) (380-216881-1). Results not acceptable per method. Insufficient volume for re-extraction / re-analysis. PFAS results by 537.1 for AIEA GULCH WELLS PUMP 2 (331-202-TP072) collected on 05/26/26 are not acceptable for compliance reporting due to QC failures of surrogate recoveries above QC acceptance criteria. The sample is collected weekly thus follow up sample was collected on 06/01/26 under job # 380-217618-2. Analysis by EPA 537.1 is currently in progress. (XWB4)

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

Detection Summary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-1

PWSID Number: HI0000331

No Detections.

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-2

PWSID Number: HI0000331

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 05/26/26 11:10
Date Received: 05/29/26 10:03

Lab Sample ID: 380-216881-1
Matrix: Water
PWSID Number: HI0000331

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		06/02/26 16:50	06/03/26 11:01	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C6 PFDA	*105*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C5 PFHxA	*107*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C4 PFHpA	*105*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C8 PFOA	*109*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C9 PFNA	*110*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C7 PFUnA	*104*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C2 PFDoA	*101*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C4 PFBA	*114*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C5 PFPeA	*103*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C3 PFBS	*109*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C3 PFHxS	*109*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-1

Date Collected: 05/26/26 11:10
Date Received: 05/29/26 10:03

Matrix: Water
PWSID Number: HI0000331

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*110*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C2-4:2-FTS	*113*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C2-6:2-FTS	*102*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*
13C2-8:2-FTS	*92*		*50 - 200*	*06/02/26 16:50*	*06/03/26 11:01*	*1*

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-2

Date Collected: 05/26/26 11:10
Date Received: 05/29/26 10:03

Matrix: Water
PWSID Number: HI0000331

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		06/02/26 16:50	06/03/26 11:11	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		06/02/26 16:50	06/03/26 11:11	1

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)
Date Collected: 05/26/26 11:10
Date Received: 05/29/26 10:03

Lab Sample ID: 380-216881-2
Matrix: Water
PWSID Number: HI0000331

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	104		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C6 PFDA	106		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C5 PFHxA	112		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C4 PFHpA	111		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C8 PFOA	110		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C9 PFNA	113		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C7 PFUnA	106		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C2 PFDoA	106		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C4 PFBA	117		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C5 PFPeA	112		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C3 PFBS	111		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C3 PFHxS	119		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C8 PFOS	115		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C2-4:2-FTS	112		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C2-6:2-FTS	108		50 - 200	06/02/26 16:50	06/03/26 11:11	1
13C2-8:2-FTS	98		50 - 200	06/02/26 16:50	06/03/26 11:11	1

Action Limit Summary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-1

PWSID Number: HI0000331

Compliance Check

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

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

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-2

PWSID Number: HI0000331

Compliance Check

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

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

Surrogate Summary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

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

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFHxA	PFDA	GenX
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
380-216853-B-1-A MS	Matrix Spike	111	123	119	116
380-216853-C-1-A MSD	Matrix Spike Duplicate	106	114	110	110
380-216881-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	160 S1+	161 S1+	169 S1+	160 S1+
380-216881-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	101	110	114	101
LCS 380-230775/21-A	Lab Control Sample	101	110	105	99
MBL 380-230775/19-A	Method Blank	109	113	113	110
MRL 380-230775/20-A	Lab Control Sample	107	111	110	105

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: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

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)
380-216820-B-2-A MS	Matrix Spike	98	93	99	101	97	97	96	94
380-216820-C-2-A MSD	Matrix Spike Duplicate	90	96	94	96	96	96	95	93
380-216881-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	95	105	107	105	109	110	104	101
380-216881-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	104	106	112	111	110	113	106	106
LCS 380-231094/22-A	Lab Control Sample	81	90	83	90	89	89	90	87
MBL 380-231094/20-A	Method Blank	100	102	102	109	107	109	101	101
MRL 380-231094/21-A	Lab Control Sample	90	96	99	101	102	100	100	97

		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)
380-216820-B-2-A MS	Matrix Spike	107	101	113	114	106	113	105	90
380-216820-C-2-A MSD	Matrix Spike Duplicate	99	95	105	103	103	103	94	84
380-216881-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	114	103	109	109	110	113	102	92
380-216881-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	117	112	111	119	115	112	108	98
LCS 380-231094/22-A	Lab Control Sample	91	85	102	98	106	100	94	91
MBL 380-231094/20-A	Method Blank	108	105	108	108	112	103	98	90
MRL 380-231094/21-A	Lab Control Sample	104	98	101	107	103	100	97	85

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

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

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

Lab Sample ID: MBL 380-231094/20-A
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 231094

Analyte	MBL Result	MBL Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorononanoic acid (PFNA)	<0.40		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<0.25		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0		ng/L		06/02/26 16:50	06/03/26 08:19	1

Isotope Dilution	*MBL %Recovery*	*MBL Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*100*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C6 PFDA	*102*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C5 PFHxA	*102*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C4 PFHpA	*109*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C8 PFOA	*107*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C9 PFNA	*109*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C7 PFUnA	*101*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C2 PFDoA	*101*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C4 PFBA	*108*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C5 PFPeA	*105*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C3 PFBS	*108*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*
13C3 PFHxS	*108*		*50 - 200*	*06/02/26 16:50*	*06/03/26 08:19*	*1*

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

Lab Sample ID: MBL 380-231094/20-A
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 231094

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	112		50 - 200	06/02/26 16:50	06/03/26 08:19	1
13C2-4:2-FTS	103		50 - 200	06/02/26 16:50	06/03/26 08:19	1
13C2-6:2-FTS	98		50 - 200	06/02/26 16:50	06/03/26 08:19	1
13C2-8:2-FTS	90		50 - 200	06/02/26 16:50	06/03/26 08:19	1

Lab Sample ID: LCS 380-231094/22-A
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231094

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	60.2	58.4		ng/L		97	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	60.2	57.3		ng/L		95	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.2	57.4		ng/L		95	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	60.2	61.0		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS)	60.2	60.5		ng/L		100	70 - 130
Perfluorodecanoic acid (PFDA)	60.2	61.2		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	60.2	64.9		ng/L		108	70 - 130
Perfluoroheptanoic acid (PFHpA)	60.2	55.9		ng/L		93	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	60.2	61.5		ng/L		102	70 - 130
Perfluorohexanoic acid (PFHxA)	60.2	62.8		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	60.2	61.5		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	60.2	59.0		ng/L		98	70 - 130
Perfluorooctanoic acid (PFOA)	60.2	58.1		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	60.2	64.1		ng/L		106	70 - 130
Perfluorobutanoic acid (PFBA)	60.2	60.3		ng/L		100	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	60.2	58.8		ng/L		98	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	60.2	61.6		ng/L		102	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	60.2	64.3		ng/L		107	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	60.2	61.5		ng/L		102	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	60.2	73.5		ng/L		122	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	60.2	63.9		ng/L		106	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	60.2	58.8		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	60.2	59.2		ng/L		98	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	60.2	60.1		ng/L		100	70 - 130

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

Lab Sample ID: LCS 380-231094/22-A
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231094

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanesulfonic acid (PFPeS)			60.2	63.3		ng/L		105	70 - 130		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*81*		*50 - 200*
13C6 PFDA	*90*		*50 - 200*
13C5 PFHxA	*83*		*50 - 200*
13C4 PFHpA	*90*		*50 - 200*
13C8 PFOA	*89*		*50 - 200*
13C9 PFNA	*89*		*50 - 200*
13C7 PFUnA	*90*		*50 - 200*
13C2 PFDoA	*87*		*50 - 200*
13C4 PFBA	*91*		*50 - 200*
13C5 PFPeA	*85*		*50 - 200*
13C3 PFBS	*102*		*50 - 200*
13C3 PFHxS	*98*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*
13C2-4:2-FTS	*100*		*50 - 200*
13C2-6:2-FTS	*94*		*50 - 200*
13C2-8:2-FTS	*91*		*50 - 200*

Lab Sample ID: MRL 380-231094/21-A
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231094

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)			2.00	2.00	J	ng/L		100	50 - 150		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)			2.00	2.00	J	ng/L		100	50 - 150		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			2.00	2.14	J	ng/L		107	50 - 150		
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)			2.00	2.18	J	ng/L		109	50 - 150		
Perfluorobutanesulfonic acid (PFBS)			2.00	2.12	J	ng/L		106	50 - 150		
Perfluorodecanoic acid (PFDA)			2.00	2.17	J	ng/L		108	50 - 150		
Perfluorododecanoic acid (PFDoA)			2.00	2.25	J	ng/L		112	50 - 150		
Perfluoroheptanoic acid (PFHpA)			2.00	2.28	J	ng/L		114	50 - 150		
Perfluorohexanesulfonic acid (PFHxS)			2.00	2.04	J	ng/L		102	50 - 150		
Perfluorohexanoic acid (PFHxA)			2.00	2.19	J	ng/L		110	50 - 150		
Perfluorononanoic acid (PFNA)			2.00	2.37	J	ng/L		118	50 - 150		
Perfluorooctanesulfonic acid (PFOS)			2.00	2.17	J	ng/L		108	50 - 150		
Perfluorooctanoic acid (PFOA)			2.00	2.26	J	ng/L		113	50 - 150		
Perfluoroundecanoic acid (PFUnA)			2.00	2.17	J	ng/L		108	50 - 150		
Perfluorobutanoic acid (PFBA)			2.00	2.17	J	ng/L		108	50 - 150		

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

Lab Sample ID: MRL 380-231094/21-A
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 231094

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.00	2.18	J	ng/L		109	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.00	2.34	J	ng/L		117	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.00	2.58	J	ng/L		129	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.00	2.53	J	ng/L		126	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	2.00	2.04	J	ng/L		102	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.00	2.22	J	ng/L		111	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.00	2.05	J	ng/L		102	50 - 150
Perfluoropentanoic acid (PFPeA)	2.00	2.14	J	ng/L		107	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.00	2.28	J	ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.00	2.00	J	ng/L		100	50 - 150

Isotope Dilution	*MRL %Recovery*	*MRL Qualifier*	*Limits*
13C3 HFPO-DA	*90*		*50 - 200*
13C6 PFDA	*96*		*50 - 200*
13C5 PFHxA	*99*		*50 - 200*
13C4 PFHpA	*101*		*50 - 200*
13C8 PFOA	*102*		*50 - 200*
13C9 PFNA	*100*		*50 - 200*
13C7 PFUnA	*100*		*50 - 200*
13C2 PFDoA	*97*		*50 - 200*
13C4 PFBA	*104*		*50 - 200*
13C5 PFPeA	*98*		*50 - 200*
13C3 PFBS	*101*		*50 - 200*
13C3 PFHxS	*107*		*50 - 200*
13C8 PFOS	*103*		*50 - 200*
13C2-4:2-FTS	*100*		*50 - 200*
13C2-6:2-FTS	*97*		*50 - 200*
13C2-8:2-FTS	*85*		*50 - 200*

Lab Sample ID: 380-216820-B-2-A MS
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 231094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.1	59.8		ng/L		99	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.1	59.4		ng/L		99	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.1	60.3		ng/L		100	70 - 130

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

Lab Sample ID: 380-216820-B-2-A MS
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 231094

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		60.1	59.2		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.1	62.5		ng/L		102	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		60.1	61.7		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		60.1	63.4		ng/L		105	70 - 130
Perfluoroheptanoic acid (PFHpA)	<2.0		60.1	60.6		ng/L		101	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.1	62.2		ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	<2.0		60.1	63.0		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		60.1	61.3		ng/L		102	70 - 130
Perfluorooctanesulfonic acid (PFOS)	4.7		60.1	65.1		ng/L		100	70 - 130
Perfluorooctanoic acid (PFOA)	<2.0		60.1	61.2		ng/L		101	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		60.1	62.5		ng/L		104	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		60.1	59.8		ng/L		99	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.1	60.6		ng/L		101	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.1	65.5		ng/L		109	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.1	63.0		ng/L		105	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.1	55.5		ng/L		92	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.1	68.4		ng/L		114	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.1	67.4		ng/L		112	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.1	61.6		ng/L		103	70 - 130
Perfluoropentanoic acid (PFPeA)	<2.0		60.1	63.0		ng/L		104	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.1	62.4		ng/L		104	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.1	62.1		ng/L		103	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 HFPO-DA	*98*		*50 - 200*
13C6 PFDA	*93*		*50 - 200*
13C5 PFHxA	*99*		*50 - 200*
13C4 PFHpA	*101*		*50 - 200*
13C8 PFOA	*97*		*50 - 200*
13C9 PFNA	*97*		*50 - 200*
13C7 PFUnA	*96*		*50 - 200*
13C2 PFDoA	*94*		*50 - 200*
13C4 PFBA	*107*		*50 - 200*
13C5 PFPeA	*101*		*50 - 200*
13C3 PFBS	*113*		*50 - 200*
13C3 PFHxS	*114*		*50 - 200*
13C8 PFOS	*106*		*50 - 200*

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

Lab Sample ID: 380-216820-B-2-A MS
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 231094

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-4:2-FTS	113		50 - 200
13C2-6:2-FTS	105		50 - 200
13C2-8:2-FTS	90		50 - 200

Lab Sample ID: 380-216820-C-2-A MSD
Matrix: Water
Analysis Batch: 231289

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 231094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		60.2	58.0		ng/L		96	70 - 130	3	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		60.2	56.7		ng/L		94	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		60.2	61.2		ng/L		102	70 - 130	2	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		60.2	64.4		ng/L		107	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)	<2.0		60.2	62.7		ng/L		102	70 - 130	0	30
Perfluorodecanoic acid (PFDA)	<2.0		60.2	60.3		ng/L		100	70 - 130	2	30
Perfluorododecanoic acid (PFDoA)	<2.0		60.2	63.8		ng/L		106	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	<2.0		60.2	60.7		ng/L		101	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)	<2.0		60.2	61.4		ng/L		99	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	<2.0		60.2	65.6		ng/L		108	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		60.2	63.8		ng/L		106	70 - 130	4	30
Perfluorooctanesulfonic acid (PFOS)	4.7		60.2	64.8		ng/L		100	70 - 130	0	30
Perfluorooctanoic acid (PFOA)	<2.0		60.2	63.2		ng/L		104	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA)	<2.0		60.2	64.4		ng/L		107	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		60.2	61.2		ng/L		102	70 - 130	2	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		60.2	66.5		ng/L		110	70 - 130	9	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		60.2	63.9		ng/L		106	70 - 130	2	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		60.2	66.5		ng/L		110	70 - 130	5	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		60.2	59.8		ng/L		99	70 - 130	8	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		60.2	65.9		ng/L		109	70 - 130	4	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		60.2	64.6		ng/L		107	70 - 130	4	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		60.2	61.3		ng/L		102	70 - 130	1	30
Perfluoropentanoic acid (PFPeA)	<2.0		60.2	62.1		ng/L		102	70 - 130	1	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		60.2	62.3		ng/L		103	70 - 130	0	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		60.2	60.1		ng/L		100	70 - 130	3	30

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

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C3 HFPO-DA	90		50 - 200
13C6 PFDA	96		50 - 200
13C5 PFHxA	94		50 - 200
13C4 PFHpA	96		50 - 200
13C8 PFOA	96		50 - 200
13C9 PFNA	96		50 - 200
13C7 PFUnA	95		50 - 200
13C2 PFDoA	93		50 - 200
13C4 PFBA	99		50 - 200
13C5 PFPeA	95		50 - 200
13C3 PFBS	105		50 - 200
13C3 PFHxS	103		50 - 200
13C8 PFOS	103		50 - 200
13C2-4:2-FTS	103		50 - 200
13C2-6:2-FTS	94		50 - 200
13C2-8:2-FTS	84		50 - 200

QC Association Summary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

LCMS

Prep Batch: 231094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-216881-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	533	
380-216881-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	
MBL 380-231094/20-A	Method Blank	Total/NA	Water	533	
LCS 380-231094/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-231094/21-A	Lab Control Sample	Total/NA	Water	533	
380-216820-B-2-A MS	Matrix Spike	Total/NA	Water	533	
380-216820-C-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	

Analysis Batch: 231289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-216881-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Total/NA	Water	533	231094
380-216881-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TPC	Total/NA	Water	533	231094
MBL 380-231094/20-A	Method Blank	Total/NA	Water	533	231094
LCS 380-231094/22-A	Lab Control Sample	Total/NA	Water	533	231094
MRL 380-231094/21-A	Lab Control Sample	Total/NA	Water	533	231094
380-216820-B-2-A MS	Matrix Spike	Total/NA	Water	533	231094
380-216820-C-2-A MSD	Matrix Spike Duplicate	Total/NA	Water	533	231094

Lab Chronicle

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Client Sample ID: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-1

Date Collected: 05/26/26 11:10
Date Received: 05/29/26 10:03

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			231094	E2HD	EA POM	06/02/26 16:50
Total/NA	Analysis	533		1	231289	SZ9R	EA POM	06/03/26 11:01

Client Sample ID: FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)

Lab Sample ID: 380-216881-2

Date Collected: 05/26/26 11:10
Date Received: 05/29/26 10:03

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			231094	E2HD	EA POM	06/02/26 16:50
Total/NA	Analysis	533		1	231289	SZ9R	EA POM	06/03/26 11:11

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: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

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 *

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

Method Summary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Method	Method Description	Protocol	Laboratory
533	Perfluorinated and Polyfluorinated Alkyl Substances in Drinking Water	EPA	EA POM
533	Extraction of Perfluorinated and Polyfluorinated Alkyl Acids	EPA	EA POM

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

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

Sample Summary

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

Job ID: 380-216881-1
SDG: Weekly: Aiea Gulch Wells Pump 2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-216881-1	AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	05/26/26 11:10	05/29/26 10:03	HI0000331
380-216881-2	FB: AIEA GULCH WELLS PUMP 2 (331-202-TP072)	Water	05/26/26 11:10	05/29/26 10:03	HI0000331

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

Chain of Custody Record

eurofins

Client Information	Sampler: bailey	Lab PM: Lopez, Maria	Carrier Tracking No(s):	COC No: 380-216881 COC
Client Contact: kirk Iwamoto	Phone: +1 808 748 5840	E-Mail: Maria.Lopez@et.eurofinsus.com	State of Origin:	Page: Page 1 of 1
Company: City & County of Honolulu	PWSID:			Job #:
Address: 630 South Beretania Street; Chemistry Lab	Due Date Requested:			
City: Honolulu	TAT Requested (days):			
State, Zip: HI, 96843	Compliance Project: Δ No			
Phone: 808-748-5840 (tel)	PO #: C20525101 exp 05312023			
Email: kiwamoto@hbws.org	WO #:			
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	Project #: 38001111			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA

M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	8015B_GRO_LL - (MOD) GRO	8015B_DRO_LL_C8 - HNL Ranges: C10-C24/C24-C36/C8-C16	525.2_PREC - (MOD) 525plus PLUS TICs	537.1_DW_PREC - 537.1 Full List	533 - All Analytes	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	R	A	Q	QA	Y	I	X	
Aiea Gulch Wells Pump 2 (331-202-TP072)	26-May-2026	1110	G	Water							3	3		chlorinated
FB: Aiea Gulch Wells Pump 2 (331-202-TP072)	26-May-2026	1110									1	1		

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FedEx: 8723 0837 5555

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[redacted]	27May2026 1400	HBWS	Received by: [illegible]	5/29/26 1003	EEAP
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: (b31A) 4.6+0.0-4.6 gel-frozen

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-216881-1
SDG Number: Weekly: Aiea Gulch Wells Pump 2

Login Number: 216881
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	
ClO4 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	