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# ANALYTICAL REPORT

## PREPARED FOR

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## JOB DESCRIPTION

RED-HILL  
PFAS: Ka'amilo Wells P1

## JOB NUMBER

380-206989-1

# Eurofins Pomona

## 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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# Definitions/Glossary

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo 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: 380-206989-1

**Job ID: 380-206989-1**

**Eurofins Pomona**

## Job Narrative 380-206989-1

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 4/8/2026 10:00 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 4.1°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: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-206989-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	3.2		2.0	ng/L	1		533	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		2.0	ng/L	1		533	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		2.0	ng/L	1		533	Total/NA
Perfluorohexanoic acid (PFHxA)	4.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.1		2.0	ng/L	1		533	Total/NA
Perfluorooctanoic acid (PFOA)	4.1		2.0	ng/L	1		533	Total/NA
Perfluoropentanoic acid (PFPeA)	4.3		2.0	ng/L	1		533	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.8		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanoic acid (PFHxA)	4.4		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.4		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.7		2.0	ng/L	1		EPA 537.1 V2	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		2.0	ng/L	1		EPA 537.1 V2	Total/NA

**Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)**  
**PWSID Number: HI0000331**

**Lab Sample ID: 380-206989-2**

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: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-1**

Date Collected: 04/06/26 11:59

Matrix: Water

Date Received: 04/08/26 10:00

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-Chloroeicosafuoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>3.2</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>2.0</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.6</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>4.1</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>5.1</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>4.1</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Perfluoropentanoic acid (PFPeA)</b>	<b>4.3</b>		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 16:21	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C3 HFPO-DA	102		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C6 PFDA	110		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C5 PFHxA	103		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C4 PFHpA	111		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C8 PFOA	106		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C9 PFNA	108		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C7 PFUnA	100		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C2 PFDoA	99		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C4 PFBA	114		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C5 PFPeA	117		50 - 200			04/09/26 06:28	04/09/26 16:21	1
13C3 PFBS	121		50 - 200			04/09/26 06:28	04/09/26 16:21	1

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# Client Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-1**

Date Collected: 04/06/26 11:59

Matrix: Water

Date Received: 04/08/26 10:00

PWSID Number: HI0000331

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	113		50 - 200	04/09/26 06:28	04/09/26 16:21	1
13C8 PFOS	115		50 - 200	04/09/26 06:28	04/09/26 16:21	1
13C2-4:2-FTS	121		50 - 200	04/09/26 06:28	04/09/26 16:21	1
13C2-6:2-FTS	125		50 - 200	04/09/26 06:28	04/09/26 16:21	1
13C2-8:2-FTS	124		50 - 200	04/09/26 06:28	04/09/26 16:21	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		04/09/26 02:27	04/09/26 16:19	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>5.8</b>		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>4.4</b>		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>4.6</b>		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>4.4</b>		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>3.7</b>		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>2.2</b>		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	115		70 - 130	04/09/26 02:27	04/09/26 16:19	1
13C2 PFHxA	105		70 - 130	04/09/26 02:27	04/09/26 16:19	1
13C2 PFDA	122		70 - 130	04/09/26 02:27	04/09/26 16:19	1
13C3-GenX	114		70 - 130	04/09/26 02:27	04/09/26 16:19	1

**Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-2**

Date Collected: 04/06/26 11:59

Matrix: Water

Date Received: 04/08/26 10:00

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-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1

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# Client Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-2**

Date Collected: 04/06/26 11:59

Matrix: Water

Date Received: 04/08/26 10:00

PWSID Number: HI0000331

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluorobutanoic acid (PFBA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		04/09/26 06:28	04/09/26 19:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C6 PFDA	108		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C5 PFHxA	106		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C4 PFHpA	104		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C8 PFOA	109		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C9 PFNA	107		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C7 PFUnA	104		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C2 PFDoA	105		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C4 PFBA	105		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C5 PFPeA	103		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C3 PFBS	109		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C3 PFHxS	108		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C8 PFOS	109		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C2-4:2-FTS	118		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C2-6:2-FTS	119		50 - 200	04/09/26 06:28	04/09/26 19:27	1
13C2-8:2-FTS	123		50 - 200	04/09/26 06:28	04/09/26 19:27	1

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# Client Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-2**

Date Collected: 04/06/26 11:59

Matrix: Water

Date Received: 04/08/26 10:00

PWSID Number: HI0000331

**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		04/09/26 02:27	04/09/26 16:30	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorotetradecanoic acid (PFTA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
Perfluorotridecanoic acid (PFTrDA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		04/09/26 02:27	04/09/26 16:30	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
d5-NEtFOSAA	99		70 - 130			04/09/26 02:27	04/09/26 16:30	1
13C2 PFHxA	99		70 - 130			04/09/26 02:27	04/09/26 16:30	1
13C2 PFDA	110		70 - 130			04/09/26 02:27	04/09/26 16:30	1
13C3-GenX	91		70 - 130			04/09/26 02:27	04/09/26 16:30	1

# Action Limit Summary

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-1**

**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	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)	3.6		ng/L	10	2.0	533	Total/NA
Perfluorononanoic acid (PFNA)	<2.0		ng/L	10	2.0	533	Total/NA
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>5.1</b>		ng/L	<b>4</b>	2.0	533	Total/NA
<b>Perfluorooctanoic acid (PFOA)</b>	<b>4.1</b>		ng/L	<b>4</b>	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
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>5.8</b>		ng/L	<b>4</b>	2.0	EPA 537.1 V2	Total/NA
<b>Perfluorooctanoic acid (PFOA)</b>	<b>4.6</b>		ng/L	<b>4</b>	2.0	EPA 537.1 V2	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.4		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: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-2**

**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	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: 380-206989-1  
 SDG: PFAS: Ka'amilo Wells P1

**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)
380-206989-1	Ka'amilo Wells P1 (331-031-WLI	115	105	122	114
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	99	99	110	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: 380-206989-1  
 SDG: PFAS: Ka'amilo Wells P1

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

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-200)	C6PFDA (50-200)	13C5PHA (50-200)	C4PFHA (50-200)	C8PFOA (50-200)	C9PFNA (50-200)	13C7PUA (50-200)	PFDaA (50-200)
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	102	110	103	111	106	108	100	99
380-206989-1 MS	Ka'amilo Wells P1 (331-031-WL008)	117	109	113	113	110	111	114	111
380-206989-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	106	107	108	109	107	102	106	106
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	97	108	106	104	109	107	104	105
LCS 380-218773/22-A	Lab Control Sample	102	111	107	106	104	109	113	112
MBL 380-218773/20-A	Method Blank	65	77	73	77	82	77	80	83
MRL 380-218773/21-A	Lab Control Sample	71	85	83	85	84	83	87	90

### 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)
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	114	117	121	113	115	121	125	124
380-206989-1 MS	Ka'amilo Wells P1 (331-031-WL008)	112	120	113	114	114	117	116	118
380-206989-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	108	116	108	107	105	113	112	108
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	105	103	109	108	109	118	119	123
LCS 380-218773/22-A	Lab Control Sample	103	107	107	109	111	109	109	112
MBL 380-218773/20-A	Method Blank	80	81	110	109	110	117	123	120
MRL 380-218773/21-A	Lab Control Sample	79	81	122	121	124	131	135	131

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MBL 380-218773/20-A**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

Analyte	MBL Result	MBL Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
11-Chloroeicosfluoro-3-oxaundecan e-1-sulfonic acid (11Cl-PF3OUdS)	<0.30		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
9-Chlorohexadecafluoro-3-oxanonan e-1-sulfonic acid(9Cl-PF3ONS)	<0.30		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.60		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<1.0		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorobutanesulfonic acid (PFBS)	<0.37		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorododecanoic acid (PFDoA)	<0.54		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoroheptanoic acid (PFHpA)	<0.39		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorohexanesulfonic acid (PFHxS)	<0.32		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorohexanoic acid (PFHxA)	<0.46		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorononanoic acid (PFNA)	<0.40		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorooctanesulfonic acid (PFOS)	<0.43		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorooctanoic acid (PFOA)	<0.38		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoroundecanoic acid (PFUnA)	<0.42		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluorobutanoic acid (PFBA)	<0.69		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<0.38		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<0.37		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<0.48		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<0.47		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<0.25		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoro-3-methoxypropanoic acid (PFMPA)	<0.46		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoro-4-methoxybutanoic acid (PFMBA)	<0.15		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoropentanoic acid (PFPeA)	<0.38		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.36		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1
Perfluoropentanesulfonic acid (PFPeS)	<0.39		2.0	ng/L		04/09/26 06:28	04/09/26 15:50	1

Isotope Dilution	MBL %Recovery	MBL Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	65		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C6 PFDA	77		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C5 PFHxA	73		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C4 PFHpA	77		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C8 PFOA	82		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C9 PFNA	77		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C7 PFUnA	80		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C2 PFDoA	83		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C4 PFBA	80		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C5 PFPeA	81		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C3 PFBS	110		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C3 PFHxS	109		50 - 200	04/09/26 06:28	04/09/26 15:50	1

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# QC Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MBL 380-218773/20-A**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

<i>Isotope Dilution</i>	<i>MBL %Recovery</i>	<i>MBL Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 PFOS	110		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C2-4:2-FTS	117		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C2-6:2-FTS	123		50 - 200	04/09/26 06:28	04/09/26 15:50	1
13C2-8:2-FTS	120		50 - 200	04/09/26 06:28	04/09/26 15:50	1

**Lab Sample ID: LCS 380-218773/22-A**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec Limits</i>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	120	109		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	120	110		ng/L		91	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	108		ng/L		90	70 - 130
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	120	110		ng/L		91	70 - 130
Perfluorobutanesulfonic acid (PFBS)	120	111		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	120	115		ng/L		95	70 - 130
Perfluorododecanoic acid (PFDoA)	120	117		ng/L		97	70 - 130
Perfluoroheptanoic acid (PFHpA)	120	110		ng/L		91	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	120	109		ng/L		91	70 - 130
Perfluorohexanoic acid (PFHxA)	120	103		ng/L		86	70 - 130
Perfluorononanoic acid (PFNA)	120	112		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	120	111		ng/L		92	70 - 130
Perfluorooctanoic acid (PFOA)	120	109		ng/L		91	70 - 130
Perfluoroundecanoic acid (PFUnA)	120	115		ng/L		95	70 - 130
Perfluorobutanoic acid (PFBA)	120	109		ng/L		90	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	120	117		ng/L		97	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	120	107		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	120	108		ng/L		89	70 - 130
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	120	106		ng/L		88	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	120	111		ng/L		92	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	120	112		ng/L		93	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	120	105		ng/L		87	70 - 130
Perfluoropentanoic acid (PFPeA)	120	107		ng/L		89	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	120	104		ng/L		87	70 - 130

# QC Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: LCS 380-218773/22-A**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanesulfonic acid (PFPeS)	120	112		ng/L		93	70 - 130
<b>LCS LCS</b>							
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
13C3 HFPO-DA	102		50 - 200				
13C6 PFDA	111		50 - 200				
13C5 PFHxA	107		50 - 200				
13C4 PFHpA	106		50 - 200				
13C8 PFOA	104		50 - 200				
13C9 PFNA	109		50 - 200				
13C7 PFUnA	113		50 - 200				
13C2 PFDoA	112		50 - 200				
13C4 PFBA	103		50 - 200				
13C5 PFPeA	107		50 - 200				
13C3 PFBS	107		50 - 200				
13C3 PFHxS	109		50 - 200				
13C8 PFOS	111		50 - 200				
13C2-4:2-FTS	109		50 - 200				
13C2-6:2-FTS	109		50 - 200				
13C2-8:2-FTS	112		50 - 200				

**Lab Sample ID: MRL 380-218773/21-A**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.01	1.76	J	ng/L		88	50 - 150
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	2.01	1.86	J	ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.01	1.81	J	ng/L		90	50 - 150
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	2.01	1.91	J	ng/L		95	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.01	1.83	J	ng/L		91	50 - 150
Perfluorodecanoic acid (PFDA)	2.01	1.94	J	ng/L		96	50 - 150
Perfluorododecanoic acid (PFDoA)	2.01	1.99	J	ng/L		99	50 - 150
Perfluoroheptanoic acid (PFHpA)	2.01	1.93	J	ng/L		96	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	2.01	1.88	J	ng/L		94	50 - 150
Perfluorohexanoic acid (PFHxA)	2.01	1.92	J	ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	2.01	1.95	J	ng/L		97	50 - 150
Perfluorooctanesulfonic acid (PFOS)	2.01	1.85	J	ng/L		92	50 - 150
Perfluorooctanoic acid (PFOA)	2.01	2.01	J	ng/L		100	50 - 150
Perfluoroundecanoic acid (PFUnA)	2.01	2.02	J	ng/L		100	50 - 150
Perfluorobutanoic acid (PFBA)	2.01	1.92	J	ng/L		96	50 - 150

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: MRL 380-218773/21-A**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	2.01	2.02	J	ng/L		100	50 - 150
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	2.01	2.02	J	ng/L		101	50 - 150
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	2.01	1.91	J	ng/L		95	50 - 150
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.01	1.58	J	ng/L		79	50 - 150
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	2.01	1.76	J	ng/L		88	50 - 150
Perfluoro-3-methoxypropanoic acid (PFMPA)	2.01	1.87	J	ng/L		93	50 - 150
Perfluoro-4-methoxybutanoic acid (PFMBA)	2.01	1.79	J	ng/L		89	50 - 150
Perfluoropentanoic acid (PFPeA)	2.01	1.89	J	ng/L		94	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	2.01	1.88	J	ng/L		94	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	2.01	1.91	J	ng/L		95	50 - 150

Isotope Dilution	MRL %Recovery	MRL Qualifier	MRL Limits
13C3 HFPO-DA	71		50 - 200
13C6 PFDA	85		50 - 200
13C5 PFHxA	83		50 - 200
13C4 PFHpA	85		50 - 200
13C8 PFOA	84		50 - 200
13C9 PFNA	83		50 - 200
13C7 PFUnA	87		50 - 200
13C2 PFDoA	90		50 - 200
13C4 PFBA	79		50 - 200
13C5 PFPeA	81		50 - 200
13C3 PFBS	122		50 - 200
13C3 PFHxS	121		50 - 200
13C8 PFOS	124		50 - 200
13C2-4:2-FTS	131		50 - 200
13C2-6:2-FTS	135		50 - 200
13C2-8:2-FTS	131		50 - 200

**Lab Sample ID: 380-206989-1 MS**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

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	110		ng/L		91	70 - 130
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		120	106		ng/L		88	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		120	109		ng/L		91	70 - 130

# QC Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-206989-1 MS**

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 218895**

**Prep Batch: 218773**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Hexafluoropropylene Oxide	<2.0		120	107		ng/L		89	70 - 130
Dimer Acid (HFPO-DA/GenX)									
Perfluorobutanesulfonic acid (PFBS)	3.2		120	114		ng/L		92	70 - 130
Perfluorodecanoic acid (PFDA)	<2.0		120	117		ng/L		97	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.0		120	113		ng/L		93	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.0		120	111		ng/L		90	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.6		120	111		ng/L		89	70 - 130
Perfluorohexanoic acid (PFHxA)	4.1		120	111		ng/L		88	70 - 130
Perfluorononanoic acid (PFNA)	<2.0		120	108		ng/L		90	70 - 130
Perfluorooctanesulfonic acid (PFOS)	5.1		120	112		ng/L		88	70 - 130
Perfluorooctanoic acid (PFOA)	4.1		120	115		ng/L		92	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.0		120	110		ng/L		91	70 - 130
Perfluorobutanoic acid (PFBA)	<2.0		120	108		ng/L		88	70 - 130
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		120	107		ng/L		89	70 - 130
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		120	101		ng/L		84	70 - 130
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		120	111		ng/L		92	70 - 130
Nonafluoro-3,6-dioxahexanoic acid (NFDHA)	<2.0		120	115		ng/L		95	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid (PFEEESA)	<2.0		120	112		ng/L		93	70 - 130
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		120	111		ng/L		92	70 - 130
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		120	111		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	4.3		120	113		ng/L		91	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		120	108		ng/L		89	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	<2.0		120	113		ng/L		93	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C3 HFPO-DA	117		50 - 200
13C6 PFDA	109		50 - 200
13C5 PFHxA	113		50 - 200
13C4 PFHpA	113		50 - 200
13C8 PFOA	110		50 - 200
13C9 PFNA	111		50 - 200
13C7 PFUnA	114		50 - 200
13C2 PFDoA	111		50 - 200
13C4 PFBA	112		50 - 200
13C5 PFPeA	120		50 - 200
13C3 PFBS	113		50 - 200
13C3 PFHxS	114		50 - 200
13C8 PFOS	114		50 - 200

# QC Sample Results

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

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

**Lab Sample ID: 380-206989-1 MS**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C2-4:2-FTS	117		50 - 200
13C2-6:2-FTS	116		50 - 200
13C2-8:2-FTS	118		50 - 200

**Lab Sample ID: 380-206989-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 218895**

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**  
**Prep Type: Total/NA**  
**Prep Batch: 218773**

<b>Analyte</b>	<b>Sample Result</b>	<b>Sample Qualifier</b>	<b>Spike Added</b>	<b>MSD Result</b>	<b>MSD Qualifier</b>	<b>Unit</b>	<b>D</b>	<b>%Rec</b>	<b>%Rec Limits</b>	<b>RPD</b>	<b>RPD Limit</b>
11-Chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	<2.0		121	108		ng/L		89	70 - 130	2	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid(9Cl-PF3ONS)	<2.0		121	114		ng/L		94	70 - 130	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		121	111		ng/L		92	70 - 130	1	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA/GenX)	<2.0		121	118		ng/L		98	70 - 130	9	30
Perfluorobutanesulfonic acid (PFBS)	3.2		121	119		ng/L		96	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	<2.0		121	115		ng/L		96	70 - 130	1	30
Perfluorododecanoic acid (PFDoA)	<2.0		121	113		ng/L		94	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	2.0		121	112		ng/L		91	70 - 130	1	30
Perfluorohexanesulfonic acid (PFHxS)	3.6		121	116		ng/L		93	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	4.1		121	115		ng/L		92	70 - 130	4	30
Perfluorononanoic acid (PFNA)	<2.0		121	117		ng/L		97	70 - 130	8	30
Perfluorooctanesulfonic acid (PFOS)	5.1		121	123		ng/L		98	70 - 130	10	30
Perfluorooctanoic acid (PFOA)	4.1		121	117		ng/L		94	70 - 130	2	30
Perfluoroundecanoic acid (PFUnA)	<2.0		121	113		ng/L		94	70 - 130	3	30
Perfluorobutanoic acid (PFBA)	<2.0		121	115		ng/L		94	70 - 130	7	30
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	<2.0		121	119		ng/L		99	70 - 130	11	30
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	<2.0		121	104		ng/L		87	70 - 130	3	30
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	<2.0		121	110		ng/L		91	70 - 130	0	30
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<2.0		121	103		ng/L		86	70 - 130	10	30
Perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	<2.0		121	115		ng/L		95	70 - 130	2	30
Perfluoro-3-methoxypropanoic acid (PFMPA)	<2.0		121	118		ng/L		98	70 - 130	6	30
Perfluoro-4-methoxybutanoic acid (PFMBA)	<2.0		121	116		ng/L		96	70 - 130	5	30
Perfluoropentanoic acid (PFPeA)	4.3		121	121		ng/L		97	70 - 130	6	30
Perfluoroheptanesulfonic acid (PFHpS)	<2.0		121	118		ng/L		97	70 - 130	9	30
Perfluoropentanesulfonic acid (PFPeS)	<2.0		121	120		ng/L		99	70 - 130	6	30

Eurofins Pomona

# QC Sample Results

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

Job ID: 380-206989-1  
 SDG: PFAS: Ka'amilo Wells P1

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

<i>Isotope Dilution</i>	<i>MSD MSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C3 HFPO-DA	106		50 - 200
13C6 PFDA	107		50 - 200
13C5 PFHxA	108		50 - 200
13C4 PFHpA	109		50 - 200
13C8 PFOA	107		50 - 200
13C9 PFNA	102		50 - 200
13C7 PFUnA	106		50 - 200
13C2 PFDoA	106		50 - 200
13C4 PFBA	108		50 - 200
13C5 PFPeA	116		50 - 200
13C3 PFBS	108		50 - 200
13C3 PFHxS	107		50 - 200
13C8 PFOS	105		50 - 200
13C2-4:2-FTS	113		50 - 200
13C2-6:2-FTS	112		50 - 200
13C2-8:2-FTS	108		50 - 200

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# QC Association Summary

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

Job ID: 380-206989-1  
 SDG: PFAS: Ka'amilo Wells P1

## LCMS

### Prep Batch: 218749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	537.1 DW	

### Prep Batch: 218773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
MBL 380-218773/20-A	Method Blank	Total/NA	Water	533	
LCS 380-218773/22-A	Lab Control Sample	Total/NA	Water	533	
MRL 380-218773/21-A	Lab Control Sample	Total/NA	Water	533	
380-206989-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	
380-206989-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	

### Analysis Batch: 218873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	218749
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	EPA 537.1 V2	218749

### Analysis Batch: 218895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	218773
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	218773
MBL 380-218773/20-A	Method Blank	Total/NA	Water	533	218773
LCS 380-218773/22-A	Lab Control Sample	Total/NA	Water	533	218773
MRL 380-218773/21-A	Lab Control Sample	Total/NA	Water	533	218773
380-206989-1 MS	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	218773
380-206989-1 MSD	Ka'amilo Wells P1 (331-031-WL008)	Total/NA	Water	533	218773

# Lab Chronicle

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

**Client Sample ID: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-1**

**Date Collected: 04/06/26 11:59**

**Matrix: Water**

**Date Received: 04/08/26 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			218773	XTD8	EA POM	04/09/26 06:28
Total/NA	Analysis	533		1	218895	SZ9R	EA POM	04/09/26 16:21
Total/NA	Prep	537.1 DW			218749	G9MN	EA POM	04/09/26 02:27
Total/NA	Analysis	EPA 537.1 V2		1	218873	M7ML	EA POM	04/09/26 16:19

**Client Sample ID: FB: Ka'amilo Wells P1 (331-031-WL008)**

**Lab Sample ID: 380-206989-2**

**Date Collected: 04/06/26 11:59**

**Matrix: Water**

**Date Received: 04/08/26 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	533			218773	XTD8	EA POM	04/09/26 06:28
Total/NA	Analysis	533		1	218895	SZ9R	EA POM	04/09/26 19:27
Total/NA	Prep	537.1 DW			218749	G9MN	EA POM	04/09/26 02:27
Total/NA	Analysis	EPA 537.1 V2		1	218873	M7ML	EA POM	04/09/26 16:30

**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: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

## Laboratory: Eurofins Pomona

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-26 *

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

# Method Summary

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

Job ID: 380-206989-1  
SDG: PFAS: Ka'amilo 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: 380-206989-1  
SDG: PFAS: Ka'amilo Wells P1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-206989-1	Ka'amilo Wells P1 (331-031-WL008)	Water	04/06/26 11:59	04/08/26 10:00	HI0000331
380-206989-2	FB: Ka'amilo Wells P1 (331-031-WL008)	Water	04/06/26 11:59	04/08/26 10:00	HI0000331

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

# Chain of Custody Record



Environment Testing  
 America

<b>Client Information</b>		Sampler: bailey		Lab PM: Lopez, Maria		Carrier Tracking No(s):		COC No:	
Client Contact: kirk iwamoto		Phone: +1 808 748 5840		E-Mail: Maria.Lopez@e.euronormus.com		State of Origin:		Page:	
Company: City & County of Honolulu		Address: 630 South Beretania Street, Chemistry Lab		City: Honolulu		State: HI, 96843		Job #:	
Phone: 808-748-5840 (tel)		PO #: C20525101 exp 05312023		Compliance Project: RUSH		Due Date Requested:		Analysis Requested	
Email: kiwamoto@hbws.org		Project #: 38001111		SSON#:		TAT Requested (days):		Preservation Codes:	
Project Name: RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill		Site:		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
Matrix (Weather, Snow/Ice, Other)		Preservation Code:		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
Ka'amilo Wells P1 (331-031-WL008)		6-Apr-2026		1159		G		Water	
FB: Ka'amilo Wells P1 (331-031-WL008)		6-Apr-2026		1159				Water	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:		Received by: <i>Mark K...</i> Date/Time: 4/8/26 1000 Company: <i>ETAP</i>	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Received by: Date/Time: Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		(331) 3-9-0-2-1   081-50020		Ver 01/16/2019	



## Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-206989-1  
SDG Number: PFAS: Ka'amilo Wells P1

**Login Number: 206989**  
**List Number: 1**  
**Creator: Ngo, Theodore**

**List Source: Eurofins Pomona**

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

